Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of	)	
	)	
Implementation of Section 621(a)(1) of the	)	
Cable Communications Policy Act of 1984	)	MB Docket No. 05-311
as Amended by the Cable Television Consumer	)	
Protection and Competition Act of 1992	)	

REPLY COMMENTS OF ANNE ARUNDEL COUNTY, MARYLAND; THE CITY OF ATLANTA, GEORGIA; THE CITY OF BELLEVUE, WASHINGTON; BLOOMFIELD TOWNSHIP, MICHIGAN; THE CITY OF BROOKHAVEN, GEORGIA; THE CITY OF BOSTON, MASSACHUSETTS; THE CITY OF COLLEGE PARK, MARYLAND; THE CITY OF DALLAS, TEXAS; THE CITY OF DAVIS, CALIFORNIA; THE CITY OF DUBUQUE, IOWA; THE DISTRICT OF COLUMBIA; THE COUNTY OF FAIRFAX, VIRGINIA; THE CITY OF FONTANA, CALIFORNIA; THE CITY OF GAITHERSBURG, MARYLAND; THE CITY OF GREENBELT, MARYLAND; HOWARD COUNTY, MARYLAND; THE CITY OF KIRKLAND, WASHINGTON; THE CITY OF LAREDO, TEXAS; THE CITY OF LAUREL, MARYLAND; LOS ANGELES COUNTY, CALIFORNIA; THE CITY OF LOS ANGELES, CALIFORNIA; THE CITY OF LINCOLN, NEBRASKA; THE MARIN TELECOMMUNICATIONS AGENCY; MERIDIAN TOWNSHIP, MICHIGAN; THE MICHIGAN CHAPTER OF THE NATIONAL ASSOCIATION OF TELECOMMUNICATIONS OFFICERS & ADVISORS; THE MICHIGAN COALITION TO PROTECT PUBLIC RIGHTS-OF-WAY; THE MICHIGAN MUNICIPAL LEAGUE; THE MICHIGAN TOWNSHIP ASSOCIATION; MONTGOMERY COUNTY, MARYLAND; MT. HOOD CABLE REGULATORY COMMISSION; THE CITY OF ONTARIO, CALIFORNIA; THE CITY OF PLANO, TEXAS; THE CITY OF PORTLAND, OREGON; THE RAMSEY/WASHINGTON COUNTIES SUBURBAN CABLE COMMUNICATIONS COMMISSION II; THE CITY OF RYE, NEW YORK; THE CITY OF SAN JACINTO, CALIFORNIA; THE SACRAMENTO METROPOLITAN CABLE TELEVISION COMMISSION; THE VILLAGE OF SCARSDALE, NEW YORK; THE TEXAS COALITION OF CITIES FOR UTILITY ISSUES; AND THE TEXAS MUNICIPAL LEAGUE

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SUMMARY

The record developed in response to the Further Notice of Proposed Rulemaking ("FNPRM") reflects widespread opposition to the Federal Communications Commission's ("Commission") flawed proposals. The record further underscores the absence of legal or policy justification for the Commission's proposed actions. The FNPRM is unsupported by the Cable Act, its legislative history, Commission precedent, or record evidence. Juxtaposed to the Commission's and industry's ethereal justification for the FNPRM stands the documented damage the Commission's proposed actions will cause to communities. Communities that have partnered with cable operators, in the spirit outlined by Congress in 47 U.S.C. § 521, to make cable television, and the community media it makes possible, the success that both have become. Community media, including educational and public safety programming, government outreach, and public access television, will be substantially harmed and in many places outright eliminated if the Commission's proposals are adopted. The FNPRM's proposed re-imposition of the "mixed-use" rule impermissibly intrudes on the authority of local governments and attempts to preempt state and local authority in areas where the Commission has not been delegated authority to regulate. Finally, the proposed extension of these deeply flawed proposals to state-level franchising represents a significant Commission overreach. It would put the Commission in the position of second-guessing and upending policy decisions made by state legislatures nationwide, resulting in numerous unintended consequences with no offsetting public benefits.

The record plainly demonstrates that the Commission lacks the authority to implement these ill-considered and unsupported proposals. We urge the Commission to: determine that no additional rules or clarifications are required; the *Montgomery County* decision of the Sixth

Circuit should be left in place, as should the long-standing interpretations of the Cable Act that have resulted in rapid deployment of cable to the benefit of the industry and public, alike.

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INTRODUCTION

Anne Arundel County, Maryland; The City of Atlanta, Georgia; The City of Bellevue, Washington; Bloomfield Township, Michigan; The City of Brookhaven, Georgia; The City of Boston, Massachusetts; The City of College Park, Maryland; The City of Dallas, Texas; The City of Davis, California; The City of Dubuque, Iowa; The District of Columbia; The County of Fairfax, Virginia; The City of Fontana, California; The City of Gaithersburg, Maryland; The City of Greenbelt, Maryland; Howard County, Maryland; The City of Kirkland, Washington; The City of Laredo, Texas; The City of Laurel, Maryland; Los Angeles County, California; The City of Los Angeles, California; The City of Lincoln, Nebraska; The Marin Telecommunications Agency; Meridian Township, Michigan; The Michigan Chapter of The National Association of Telecommunications Officers & Advisors; The Michigan Coalition To Protect Public Rights-Of-Way; The Michigan Municipal League; The Michigan Township Association; Montgomery County, Maryland; Mt. Hood Cable Regulatory Commission; The City of Ontario, California; The City of Plano, Texas; The City of Portland, Oregon; The Ramsey/Washington Counties Suburban Cable Communications Commission II; The City of Rye, New York; The City of San Jacinto, California; The Sacramento Metropolitan Cable Television Commission; The Village of Scarsdale, New York; The Texas Coalition of Cities For Utility Issues; And The Texas Municipal League (collectively, "Localities")[1] submit these Reply Comments to further develop

[1] Since filing of our initial comments, the City of Davis, California; the County of Fairfax, Virginia; the City of Gaithersburg, Maryland; the City of Laurel, Maryland; and the Marin Telecommunications Agency have joined the coalition. These new members share the views expressed in the Localities' initial comments, and request that they be associated with those comments as this proceeding moves forward. *See* Comments of Anne Arundel County, Maryland, *et al*, MB Docket No. 05-311 (Nov. 14, 2018) ("Localities Comments"). Bloomfield Township, Michigan; Meridian Township, Michigan; the Michigan Chapter of the National Association of Telecommunications Officers and Advisors; the Michigan Coalition to Protect Public Rights of Way; and the Michigan Townships Association are represented by Kitch

the record regarding the Federal Communications Commission's ("Commission") *Further Notice of Proposed Rulemaking*[2] ("FNPRM") regarding cable franchise fees and mixed-use networks.[3] Collectively, the Localities represent more than 16.2 million Americans, including more than a million cable subscribers.

The record reveals that the majority of commenters agree with Localities that the FNPRM contains deeply flawed policies founded on ethereal legal support that will result in great harm to communities and thus resulted in the overwhelming opposition to the proposal.[4]

I. THE COMMISSION SHOULD REJECT CALLS TO SUBJECT ALL FRANCHISE OBLIGATIONS TO THE FRANCHISE FEE CAP.

A. Supportive Commenters Fail To Identify Anything In The Act, Its Legislative History, Or Commission Precedent To Support The Commission's Novel Interpretation.

Among the numerous parties filing comments, NCTA, Verizon, and ACA alone support the FNPRM's flawed interpretation that all obligations in a franchise agreement or otherwise

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Drutchas Wagner Valitutti & Sherbrook; all other Localities are represented by Best Best & Krieger LLP.

[2] Further Notice of Proposed Rulemaking, *Implementation of Section 621(a)(1) of the Cable Communications Policy Act of 1984 as Amended by the Cable Television Consumer Protection and Competition Act of 1992*, MB Docket No. 05-311, FCC 18-131 (rel. Sep. 25, 2018) ("FNPRM").

[3] References to comments of parties throughout this document refer to comments submitted in November 2018 in the above-captioned proceeding, unless otherwise specified. References to the "Cable Act" or the "Act" refers to the Cable Communications Policy Act of 1984, Pub. L, No. 98-549, as amended by the Cable Television Consumer Protection and Competition Act of 1992 and the Telecommunications Act.

[4] *See e.g.* Comments of NATOA et. al. (Nov. 14,2018) ("NATOA Comments"); Comments of Philadelphia et. al. (filed Nov. 14, 2018) ("Philadelphia Comments"); Comments of Cities Coalition (Nov. 14, 2018) ("Cities Coalition Comments"); Comments of the State of Hawaii (Nov. 14, 2018) ("Hawaii Comments").

required of a cable operator are subject to the five percent franchise fee cap.[5] The record still lacks any defensible legal theory to justify the Commission's proposal. Furthermore, the record is devoid of substantive evidence to support the Commission's oft-repeated voluntary cross-subsidization economic theory,[6] or to document the alleged harms to broadband deployment that result from local franchising authority ("LFA") actions. Across more than twenty pages of its comments, NCTA details all the changes it insists must be made. However, it offers no explanation as to *why* beyond simple assertions that various obligations agreed to by cable operators, either in negotiated franchises or in negotiated settlement agreements, should be set aside by the Commission for the benefit of those operators.[7] NCTA goes to great lengths to explain how so-called "in-kind" obligations must be treated and how they must be valued. It even suggests prohibiting parties from agreeing to terms different than those that NCTA prefers. Unfortunately, NCTA offers scant legal justification as to *why* any of these changes are required, or legally supported, by the Act or any other source of law.[8]

Similarly, ACA simply claims that the term "franchise fee" as defined by Section 622 of the Act, is so broad as to include terms and definitions existing nowhere within its text, yet is

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[5] Comments of NCTA at 1, 6 (Nov. 14, 2018) ("NCTA Comments"); Comments of Verizon (Nov. 14, 2018) ("Verizon Comments"); Comments of the American Cable Association at 9 (Nov. 14, 2018) ("ACA Comments").

[6] See Section VII.A. *infra*.

[7] *See* NCTA Comments at 38-59.

[8] *But see* Philadelphia Comments at 4 ("[P]lain reading of the language in section 622(g)(1) buttressed by the legislative history show the Commission proposed interpretation lacks support because the allegedly "in-kind" franchise provisions are neither assessed nor imposed."); NATOA Comments at 5 ("There can be no doubt that Congress did not intend cable franchise requirements to be 'franchise fees.' This is plainly stated in the legislative history: 'Subsection 622(g)(2)(C) establishes a specific provision for PEG access in new franchises.'"); Cities Coalition Comments at 12 ("[T]he *Second FNPRM* fails to grasp the distinction between payment of a franchise fee as compensation for use of public property and cable operator obligations agreed to by parties as part of a bargained-for-exchange.").

simultaneously unambiguous to such an extent that legislative history is not necessary to sustain it, aside from one small example allegedly supportive of the FNPRM's interpretation.[9] ACA fails to explain how a statute may be facially unambiguous only *after* additional language has been read into it by an agency interpreting that statute.[10]

On the other hand, numerous parties correctly rejected the Commission's authority to redefine franchise fees to include non-monetary cable-related franchise obligations. The Association of Washington Cities noted that the Commission cannot expand interpretation of an unambiguous statute beyond its plain language,[11] and the Cities Coalition emphasized that the FNPRM is inconsistent with the plain language of the statute and legislative history as well as being inconsistent with earlier Commission orders.[12] NATOA emphasized the lack of evidence of need for such offsets, and the clarity of the Act and its legislative history regarding non-monetary provisions in cable franchises.[13] Philadelphia emphasized that the "[Commission] does not have authority to interpret the definition of "franchise fee" in section 622(g)(1). Further, a plain reading of the language in section 622(g)(1) buttressed by the legislative history show the

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[9] *See* ACA Comments at 5; *but see* Philadelphia Comments at 9, 10. 25 (citing *Tex. Coal. Of Cities for Util. Issues v. FCC,* 324 F.3d 802, 806 (5th Cir. 2003) ("A franchise fee is 'essentially a form of rent: the price paid to rent use of public right-of-ways.'") (internal quotations omitted))); *see also City of Bowie, Maryland c/o David Deutsch*, 14 F.C.C. Rcd. 7675 (1999) (describing franchise provisions of this sort as 'franchise requirements'), *amended by Cable Services Bureau Action*, 14 F.C.C. Rcd. 9596 (1999))

[10] *Compare* ACA Comments at 8 ("ACA further agrees with the Commission's tentative conclusion that "cable-related, in-kind contributions" are "franchise fees" under paragraph 622(g)(1) even if expressly contemplated elsewhere in Title VI.") *with* ACA Comments at fn. 22 (" ACA believes that the term "franchise fee" within Section 622 unambiguously embraces cable-related, in-kind contributions. The legislative history corroborates this reading of the statute but is not necessary to sustain it.").

[11] Comments of the Association of Washington Counties at 5-6 (Nov. 14, 2018) ("Association of Washington Counties Comments").

[12] Cities Coalition Comments at 11-12.

[13] NATOA Comments at 2-5.

Commission's proposed interpretation lacks support because franchise obligations are not "taxes, fees or assessment" in any sense; calling them "in-kind" does not change the matter.[14]

The record, in sum, supports the position Localities took in our initial comments, and which is shared by numerous commenters: the FNPRM's proposals are "inconsistent with the Cable Act, the Cable Act's legislative history, case law, Commission precedent, and market realities."[15]

B. Congress Established A Statutory Framework For Non-Monetary Cable-Related Obligations, Separate And Distinct From The Franchise Fee Cap.

As detailed in our initial comments,[16] Congress established a clear and unambiguous framework to govern non-monetary cable-related obligations arising in cable franchises, separate and distinct from franchise fees and the franchise fee cap.[17] As the record demonstrates, there is no ambiguity at play with respect to the definition of "franchise fees" and the inclusion of non-monetary services therein – "the [Commission] has devised, out of whole cloth, the alien concept of 'in-kind contributions.'"[18] The absence of ambiguity in the statute deprives an administrative

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[14] Philadelphia Comments at 4; *see also* Localities Comments at 19-21.

[15] Localities Comments at i.

[16] *Id.* at 9

[17] The City of Philadelphia provides an extensive legislative history on the Cable Act from pure local franchising, through the dual regulatory authority of the Commission and local government through the Cable Act in 1984. Philadelphia Comments at 2; *see also* NATOA Comments at 1 ("The tentative conclusion that cable franchise requirements such as public, educational and government channels and customer service obligations are franchise fees is not supported by the Cable Act or its legislative history, and would have significant, negative impacts on local governments and cable subscribers."); Cities Coalition Comments at 8 ("*FNPRM* fails to grasp the distinction between payment of a franchise fee as compensation for use of public property and cable operator obligations agreed to by parties as part of a bargained-for-exchange.").

[18] Comments of Charles County, Maryland at 8-9.

agency of any deference it might claim for its interpretation of the statute.[19] The Act is clearly structured to consider as franchise fees only *monetary payments,* and to treat other, cable-related non-monetary services and facilities requirements *differently,* under separate provisions of the law (including sections 531, 541, 544, 546, and 552). The FNPRM persists in ignoring this fact.

As New York City notes, the legislative history is clear that "*In general this section defines as a franchise fee only monetary payments made by the cable operator and does not include as a 'fee' any franchise requirements for the provision of services, facilities and equipment.*"[20] Moreover, Localities agree that the FNPRM cannot reasonably rely on the absence of an express statement in the statute that "only monetary" payments count as proof that Congress intended all franchise requirements to count against the franchise fee.[21] Actually, the absence of that express statement is consistent with the idea that Congress intended to limit franchise fees to "taxes, fees and assessment" as those terms are commonly understood, and not to include franchise requirements contemplated and permitted by other provisions of the Cable Act.[22] An express exclusion was unnecessary, and if there were any real doubt as to the matter, it is removed by the overall structure of the Act and its clear legislative history. [23] No commenter provides any alternative justification for this distinction.

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[19] Comments of the International Municipal Lawyers Association at 3 (Nov. 14, 2018) ("IMLA Comments") ("Commission does not have the authority to change the nature of franchise fees under *Chevron*. Considering that the Act has been interpreted the same way for close to 40 years lends itself to our contention that it is not ambiguous."); *see also National Cable & Telecommunications Ass'n v. Brand X Internet Services*, 545 U.S. 967 (2005).

[20] *See* Comments of New York City at 3 (Nov. 14, 2018) ("New York City Comments"); H.R. Rep. No. 98-934, 65, 1984 U.S.C.C.A.N. 4655, 4702, 4718-20, 4730 ("House Report").

[21] *See* Localities Comments at 17-19. New York City Comments at 9.

[22] Localities Comments at 19.

[23] *Id.* at 14-16; New York City Comments at 9; *see also* Philadelphia Comments at 5-18, (providing a comprehensive review of the history of cable franchising from 1966 to current day); Cities Coalition Comments at 12 ("*FNPRM* does not address or explain how its approach of

C. The Commission Must Not Prohibit Cable Operators and LFAs From Agreeing To Innovative Solutions.

Throughout the more than three decades of federally regulated cable franchising, communities and cable operators nationwide have found a broad array of creative solutions to meet the unique needs and interests of each community. Nevertheless, NCTA calls upon the Commission to prohibit parties from entering into such innovative solutions, claiming that allowing flexibility into the marketplace would be inconsistent with "statutory public policy and consumer protection."[24] In defense of its call for such restrictions, NCTA alleges abusive conduct by LFAs, such as requiring "cable operators to pay extra fees or assume extra requirements without counting their value towards the cap on franchise fees, forcing cable operators to accept the terms or incur costly litigation to enforce their rights."[25]

But NCTA's argument as a whole is circular: local communities' requests, in negotiations, for cable operators to meet their cable-related needs and interests would be *abuses* only if one already accepted NCTA's assumption (contrary to sections 531 and 546 of the Act) that local communities were prohibited from making such requests.

In other words, NCTA defines the ordinary practice of cable franchise negotiations—in which both cable operators and localities have fruitfully engaged for decades—as an abuse, and then claims the abuse as justification to forbid those normal practices.

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collapsing the different components of franchise compensation into the franchise fee remains consistent with Congressional intent that franchise fees compensate for use of rights-of-way, while franchise obligations are the value provided for the right to provide cable service.")

[24] NCTA Comments at 55.

[25] *Id.* at 56.

As importantly, NCTA presumes that franchise agreements are the only source of commitments between operators and communities.[26] The Commission itself has recognized that when there are non-compliance issues, rather than requiring the parties to settle issues by imposing penalties, seeking damages, or terminating agreements, it is useful to allow the parties to negotiate arrangements that can be a "win-win" for the community and the operator. The Commission itself routinely resolved rate regulation overcharges by accepting some combination of reductions in charges going-forward, and delivery of benefits (like free Internet services) to schools. Similarly, there may be commercial arrangements where localities purchase services, or construction options from operators. Those separate agreements are not requirement of the franchise, and their terms cannot be treated as franchise fees (and should not be).[27]

NCTA argues that the Commission's rate regulations imply parties may not waive provisions of the Cable Act in entirely different areas of negotiation and prohibit any agreement for any benefit exceeding five percent of gross revenues, between any LFA and a cable operator.[28] In reaching these conclusions, NCTA handily skips over the fact that the Commission's own rate regulation settlements routinely included both rate regulation settlements, and service conditions that the Commission itself could not impose directly. NCTA also ignores the fact that the Act provides, and the Commission has specifically confirmed, areas of the franchising process in which LFAs and cable operators *may* agree to terms beyond those

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[26] NCTA Comments at 42.

[27] Philadelphia Comments at 4 ("…[A]greements made outside of the cable franchise agreement, such as a settlement agreement, Memorandum of Understanding (MOU), indefeasible right-of-use (IRU) agreement, letter agreement, agreement for services, or any other agreement must not be allowed to be deducted from the franchise fee.").

[28] *Id.* at 55-59.

embodied in the Act.[29] For example, both the Cable Act and Commission precedent recognize that LFAs and cable operators can set customer service standards that go beyond the Commission's minimum requirements.[30]

It should be noted that NCTA's suggestion that local communities have cable operators at a disadvantage in negotiations is absurd.[31] Anyone who has participated in such negotiations is well aware of the numerous advantages the Cable Act affords to cable companies, including through the renewal provisions. Nor does NCTA acknowledge that cable operators bring extensive and continuing experience with franchise negotiations to bear at each negotiation. Cable operators are represented by experienced attorneys who specialize in franchise renewals; in contrast, many communities, as they only address franchise negotiations every five to ten years, lack comparable experience and market intelligence. In cable franchise negotiations, it is the cable operator who many times has the local community over a barrel, as it were. It is only because the Commission itself has no experience in cable franchising or franchise negotiations that NCTA can hope to make hay of such ridiculous claims.

D. Build-Out Obligations Should Not Be Subject To Offset.

ACA directly admits that absent build-out requirements, the very investment which the FNPRM alleges is inhibited by LFA regulation, would not happen.[32] ACA claims LFAs

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[29] NCTA Comments at 26-27,42-46.

[30] 47 U.S.C. § 552(b); *In the Matter of Implementation of Section 8 of the Cable Television Consumer Protection and Competition Act of 1992, Consumer Protection and Customer Service,* MM Docket No. 92-263, Report and Order, 8 FCC Rcd. 2892 (1993).

[31] *See* NCTA Comments at 3, 58.

[32] ACA Comments at 7.

benefit[33] when build-out comes to "certain constituencies within an expedited time frame that otherwise would not incur [sic] in an unregulated market."[34] This admission – that unless forced to do so, cable operators would not deploy services as quickly (if at all) – stands in stark contrast to the FNPRM's assertion that the Commission's proposals will "help[] to ensure that local franchising requirements do not discourage cable operators from investing in new facilities and services."[35]

ACA makes several errors in arguing that the cost of build-out obligations should be subject to offset against franchise fees owed. First, ACA alleges without evidence that "build-out requirements may provide a benefit to the LFA."[36] ACA seems to suggest that such requirements do not benefit the public. Nothing could be further from the truth. Build-out requirements are used to promote deployment throughout a community, to ensure that all citizens have the opportunity to access services, not merely those whom a cable operator deems most convenient or most desirable. The benefits of build-out requirements are quintessentially public – each additional house passed is one more member of the public with an opportunity to access services that they previously did not have.

Moreover, in the long run such requirements bring benefits to the cable operator as well. Each extension brings makes new customers available, providing additional revenue

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[33] For purposes of this section and Section II.E, below, Localities assume that a line can be drawn to separate franchise provisions which benefit the community, and those which benefit the LFA, and that the distinction is furthermore significant for franchise fee purposes. As our comments make clear, Localities disagree that such a distinction can be made nor that it exists. *See* Localities Comments at 27-30.

[34] ACA Comments at 7.

[35] FNPRM at ¶ 1; *see also* Section I.G *infra*.

[36] ACA Comments at 7.

opportunities for cable operators, and more opportunities to distribute the costs of doing business.

ACA offers no substantiation for its assertion that expanded build-out – through which LFAs ensure service is available to low-income members of the community – is a benefit that accrues to the LFA itself, and not those members of the public who now have access to service. If anything, its argument simply underscores the infinite plasticity, and absence of meaning, associated with the line the FNPRM seeks to draw between "community benefits" and "LFA benefits."

Build-out obligations may incidentally benefit an LFA when, in meeting its obligation to extend subscriber lines to covered residents, the cable system passes additional municipal buildings where complimentary service may be provided. Still, franchise agreements generally contain limits on the costs that providers must incur in serving those public buildings.[37] Moreover, cable operators increasingly use other fibers in the free drop to market other data and telecommunications services to the public entity, for a fee. So even in those limited circumstances where some portion of a build-out obligation may assist in bringing service to LFA facilities, most franchise agreements limit any cost incurred, while building a new market for the cable operator.[38]

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[37] Most franchise agreements require the LFAs to bear the costs of building line extensions beyond a certain distance from the cable network as a means to keep operator costs in check.

[38] As an aside, the FNPRM presumes, incorrectly, that service provided to educational institutions directly benefits LFAs. Schools are often managed and financed separately from franchising authorities, however, and even assuming an allocation of benefits were possible, the benefits of service to educational institutions undoubtedly flow to the general public by way of students, not to an LFA.

E. The Benefits of PEG Programming and Access Accrue to Cable Operators and the Public, and Are Not Confined to State and Local Franchising Authorities.

The record is overwhelmingly clear that the benefits of PEG programming and access accrue to cable operators and the public, not only to franchising authorities, as the FNPRM and a few cable industry commenters suggest.[39] Communities nationwide have shared the importance of PEG access programming to their communities in this proceeding, and the unique benefits that programming provides to the *public*, in the form of improved access to truly local news,[40] the critical role PEG channels play in public safety, and significant educational and civic engagement opportunities. Numerous commenters note further that these services also benefit *cable operators* themselves. As we discussed in our initial comments, the availability of PEG programming is of great importance to customers in communities served by cable operators and can be beneficial to the operator itself.[41] The contrary assertion of harm is not backed by any evidence in the record.

Further, even if PEG carriage imposes burdens on providers, the Commission has already taken the position that cable operators may pass those costs on to consumers – the true beneficiaries – directly.[42] Cable bills nationwide, as provided in the Act, include line-item amounts for franchise fees, PEG support fees, and other obligations that cable operators incur

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[39] *See* FNPRM at ¶ 21; ACA Comments at 7.

[40] Hawaii Comments at 13-14; Comments of the Village of Northbrook at 4 (Nov. 14, 2018); Comments of Akaku Maui Community Media at 3 (Nov. 14, 2018); NATOA Comments at 2, 6, 9; Cities Coalition Comments at 17-18; Comments of the Association of Washington Cities at 10-14 (Nov. 14, 2018); Philadelphia Comments at 11.

[41] *See* Localities Comments at Exhibit A, Declaration of Susan Buske.

[42] 47 U.S.C. § 542 (c)(2).

(including Commission -mandated fees.)[43] Both the Commission and the industry admit that to the extent that any burden exists, it is borne by those who benefit – cable subscribers.[44]

F. The Commission Must Reject Calls To Limit The Scope Of "Capital Costs".

The Commission must reject NCTA's demands to limit the definition of "capital costs" far more narrowly than even the ordinary meaning of the term. NCTA argues that "the Commission should confirm that PEG capital costs include only construction of PEG facilities (not cameras, playback devices and other equipment), including construction costs incurred in or associated with a PEG return line from the PEG studio to the operator's facility, and that any additional asks (including transport costs) are not part of the statutory exemption…"[45] As we showed in our initial comments, the statutory definition of PEG facilities precludes this narrowing, and one cannot simply circumnavigate the broad statutory definition by redefining "capital costs."[46]

First, NCTA's definition of "capital costs" is inconsistent with the common meaning of the term. Capital expenditures commonly include, for example, "everything from repairing a roof, to building, *to purchasing a piece of equipment*, or building a brand new factory."[47] They can also include the cost of removal of existing equipment, site development (*e.g.*, reinforcing the floor, sound proofing the walls, adding lighting) and research on what to purchase. However, NCTA would argue that the term "capital costs" – undefined in the Act – should be subjected to

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[43] *See* 47 U.S.C. § 542 (c)(1-3).

[44] Localities' comments here should not be read to agree that line-itemization is a "pass-through" that increases subscribers' costs; operators who did not incur those costs could simply raise the underlying rates and pocket the difference.

[45] NCTA Comments at 47.

[46] *See* Localities Comments at 11-12, 16-17.

[47] Investopedia, *Capital Expenditure* (last accessed Dec. 13, 2018), https://www.investopedia.com/terms/c/capitalexpenditure.asp.

a much narrower interpretation than common practice would suggest. Indeed, common practice in the cable sector is not on NCTA's side. Cable operators and LFAs have long agreed that capital costs can and do include expenditures for equipment such as cameras, editing bays, sound gear, mobile production vehicles, and backup generators, in addition to any studio construction expenses (most of which, NCTA conveniently fails to mention, are already built.)

NCTA's argument that franchise requirements to provide upstream transport to the headend for the downstream distribution of PEG channels are subject to offsets is erroneous.[48] Such an interpretation would render the requirement to provide PEG capacity without charge meaningless, as "free" capacity that an LFA cannot access without paying, is hardly "free." Upstream and downstream channel capacity required for PEG are "channels" and dedicated physical connections are facilities within the meaning of the Act's definition of "public, educational, or governmental facilities." Accordingly, statutory and contractual requirements to provide PEG capacity would be rendered meaningless by NCTA's argument that operators may nevertheless charge a fee before a community may access the benefit to which it is entitled.[49]

G. The Commission Cannot Commandeer Its Preferred But Flawed Proposal Without Violating The 10th Amendment.

The Supreme Court's recent holding in *Murphy v. National Collegiate Athletic Ass'n*[50] should stand as a warning to the Commission that it cannot simply direct state and local

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[48] NCTA Comments at 47.

[49] This line of reasoning further supports the argument levied above that this case is similar to *Tulare Lake*, which held that the federal government's water rights restrictions constituted a physical taking because they limited users' ability to use an amount of water to which they would otherwise be entitled.

[50] 584 U.S. __, slip op. at 15 (2018).

governments to carry out a regulatory scheme that it finds preferable.[51] As the Court noted: "Conspicuously absent from the list of powers given to Congress is the power to issue direct orders to the governments of the States."[52] "'[T]he federal government' may not 'command the state's officers, or those of their political subdivisions, to administer or enforce a federal regulatory program.'"[53]

The FNPRM, as proposed, does exactly what *Murphy* says it cannot. The FNPRM directs local governments to surrender their property and management rights to generate additional funds for use in the expanded deployment of broadband.[54] Moreover, barring local government oversight of its rights-of-way as proposed by the "mixed use" section of the FNPRM, the Commission is effectively commanding local government to grant right-of-way access on the terms the Commission, not local government or the states set. This is textbook commandeering.

The Court also made it clear that a commandeering action, such as those found in the FNPRM, cannot be saved by the defense of directing only those acting in administrative or ministerial roles, not those with policymaking authority, [55] nor that the FNPRM is not "commanded" but merely guidance.[56] The FNPRM violates "The basic principle – that Congress (and by extension the Commission) cannot issue direct orders to state legislatures…."[57]

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[51] *See* Ex Parte Letter from the Smart Communities and Special Districts Coalition, WT Docket No. 17-79, WC Docket No. 17-84, at 2-3 (Jun. 4, 2018).

[52] *Murphy v. National Collegiate Athletic Ass'n,* 584 U.S. __, slip op. at 15 (2018).

[53] *Id.*, slip op. at 17 (quoting *Printz v. United States*, 521 U.S. 898, 935 (1997).)

[54] FNPRM at ¶ 1.

[55] *Murphy*, 584 U.S. __, slip op. at 17 (citing *Printz*, 521 U.S. at 929-30.)

[56] *Murphy*, 584 U.S. __, slip op. at 19.

[57] *Id.*

II. THE SUBMISSIONS BY MEMBERS OF CONGRESS SHOULD NOT BE IGNORED.

The record before the Commission reflects widespread agreement among commenters that the Commission's proposals are inconsistent with both the text and the intent of Congress embodied by the Cable Act.[58] In recent correspondence to the Commission, Members of Congress, including a number that were on the drafting committees, make clear to the Commission, that the effects these proposals are not consistent with the intent of the legislature.

In seven letters to the Commission since the FNPRM was released, a dozen United States Senators and seven members of the House of Representatives have made clear that the Commission must recognize that:

- the FNPRM presents a "…lose-lose choice for LFAs and the residents they serve";[59] and
- "PEG stations [that] provide Americans with dynamic opportunities to connect with each other and their local governments"[60] and "provide critical information to communities during natural disasters"[61]; and
- "[The FNPRM] would result in a significant reduction in financial support for local programming,"[62] "put at risk critical funding for public, educational, or governmental (PEG) stations as well as broadband connections to schools and other public

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[58] *See, e.g.* New York City Comments at 1; City Coalition Comments at 1.

[59] Letter from Rep. James P. McGovern to Chairman Ajit Pai (Nov. 14, 2018) attached hereto as Exhibit 1.

[60] Letter from Reps. Peter Welch and Chellie Pingree to Chairman Ajit Pai (Dec. 6, 2018) attached hereto as Exhibit 1 A.

[61] Letter from Reps. Tulsi Gabbard and Colleen Hanabusa to Chairman Ajit Pai (Dec. 11, 2018) attached hereto as Exhibit 1 B.

[62] Letter from Sen. Jeanne Shaheen to Chairman Ajit Pai (Nov. 26, 2018) attached hereto as Exhibit 1C.

buildings,"[63] and "have the effect of eliminating Public, Educational and Government (PEG) channels from cable system line-ups. This is the opposite effect intended by the Cable Act passed by Congress."[64]

To the extent the Commission persists in finding ambiguity where there is none in the statute, it must not ignore these clear statements that Congress did not intend the results that the Commission now contemplates.

III. CABLE OPERATOR OBLIGATIONS THAT DO NOT ARISE OUT OF FRANCHISE AGREEMENTS ARE OUTSIDE THE SCOPE OF THIS PROCEEDING AND OUTSIDE THE COMMISSION'S AUTHORITY.

A. The Commission Should Maintain Its Long-Held Position That It Cannot Reach Blanket Conclusions Regarding Complex Agreements; They Must Instead Be Evaluated Individually.

In its 2007 *Second Order,* the Commission noted that "franchise agreements involve contractual obligations and also note that some terms may have been implemented as part of a settlement agreement regarding rate disputes or past performance by the franchisee."[65] The Commission held further that "the facts and circumstances of each situation must be assessed on a case-by-case basis under applicable law" in determining the permissibility of particular terms under the Cable Act.[66] It is more important than ever that the Commission preserve this position; a reversal would see the Commission not only abandon precedent, but arbitrarily and

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[63] Letter from Sens. Edward J. Markey, Tammy Baldwin, Margaret Wood Hassan, Benjamin L. Cardin, Jeffrey A. Merkley, Bernard Sanders, Gary C. Peters, Ron Wyden, Patrick Leahy, Richard Blumenthal, and Elizabeth Warren to Chairman Ajit Pai (Oct. 29, 2018) attached hereto as Exhibit 1D; *see also* Letter from Rep. Eliot L. Engel to Chairman Ajit Pai (Dec. 13, 2018) attached hereto as Exhibit 1E.

[64] Letter from Rep. Mark Pocan to Chairman Ajit Pai (Dec. 12, 2018) ("Rep. Pocan Letter") attached hereto as Exhibit 1F.

[65] *Second Report and Order,* MB Docket No. 05-311, 22 FCC Rcd. 19633 ¶ 19 (2007).

[66] *Id.*

capriciously do so without any explanation as to why, let alone a record to support such a reversal.

B. The Commission Lacks Both Legal Authority And Support In This Record To Justify Interfering With Negotiated Agreements Or Overturning Settlements That Are Outside Of Its Jurisdiction.

Were the Commission to abandon its precedent of respecting settlement agreements[67] (and this record fails to provide any support for such an action), the Commission would be putting its finger on the scale to tip negotiated settlements and agreements, agreed to freely by cable operators, in those providers' favor at the expense of local communities that have provided good and valuable consideration to the cable operator consistent with congressional intent. The Commission offers no legal authority to support such an action, nor does any commenter offer a basis upon which the Commission might purport to take such action.

In 2007, NATOA noted that "franchise agreements also reflect compromises reached between the LFA and incumbent cable operator on a variety of complex, and situation-specific, issues and circumstances," and furthermore "often include benefits received in return for the LFA's settlement and release of claims that it may have had against the incumbent under the franchise existing prior to its latest renewal franchise."[68] Both cable operators and franchising authorities benefit from the freely bargained-for concessions and commitments they contain.

These contracts, however, remain squarely outside the Commission's Cable Act authority since any obligations contained in such agreements are not related to the grant of a franchise or renewal of an existing franchise, but rather to the settlement of violations. Unless the

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[67] *Id.*

[68] Comments of NATOA, *et al.*, MB Docket No. 05-311, at 16 (Apr. 20, 2018). For further discussion of settlement terms inappropriately mischaracterized as franchise obligations, see Section VII.D, *infra*.

Commission intends to assert that local authority to settle alleged violations is subject to the Commission's oversight, too – a claim for which there is not foundation in the Act – then these terms are wholly outside the Commission's bailiwick.

To the extent such an agreement imposes an obligation on a cable operator, that obligation does not arise out of the franchise – it arises out of a settlement of past noncompliance. In particular, contracts related to I-Nets, for which many LFAs actually pay cable operators, occur frequently in the form of settlement agreements or separate contracts and thus are outside this proceeding's scope. To the extent any such contracts or settlements impose a bargained-for obligation on a cable operator, that is not a franchise obligation, and cannot possibly be a franchise fee, nor can the value of such obligations be subject to the statutory franchise fee cap. Even if the record contained meaningful evidence as to alleged harms arising from such settlements, and it does not, the Commission cannot legally interfere with these agreements.

IV. THE COMMISSION SHOULD REJECT CALLS TO READOPT ITS PREVIOUSLY REJECTED MIXED-USE RULE.

A. The FNPRM Overstates the Commission's Authority to Preempt.

Philadelphia reminds the Commission " the Cable Act does not govern the installation of communications facilities, other than those facilities comprising a cable system, and the Commission does not otherwise have authority to govern these issues." [69]New York City offers that "[t]he FNPRM fails to describe limits on the authority of FAs [franchising authorities] over

[69] Philadelphia Comments at 51. *See also* Frederick E. Ellrod III & Nicholas P. Miller, *Property Rights, Federalism, and the Public Rights of Way*, 26 SEATTLE U. L. Rev. 475, 485 (2003) ("Historically, local and state governments had the primary responsibility for managing the public PROW to serve the needs of pedestrians and vehicular traffic." (citing HENK BRANDS & EVAN T. LEO, THE LAW AND REGULATION OF TELECOMMUNICATIONS CARRIERS 4 (Artech House 1999))).

non-cable services of a cable operator in a manner that falls within the parameters of the Commission's authority to adopt."[70] As Philadelphia, New York City and others[71] details at length, provisions of the Cable Act expressly recognize the power of franchising authorities to regulate mixed-use networks.

New York City highlights 47 U.S.C. § 552, which imposes subscriber privacy obligations on cable operators with respect to both their cable service and "other services."[72] Further, 47 U.S.C. § 552(d) provides specifically that "[n]othing in this subchapter shall be construed to prohibit any State or any franchising authority from enacting or enforcing laws consistent with this section for the protection of subscriber privacy."[73] The particular subchapter described is the section of Title 47 refers to the entirety of the Cable Act.

Additionally, 47 U.S.C. § 552(d)(2) provides "[n]othing in this subchapter shall be construed to prevent the establishment or enforcement of any municipal law or regulation, or any State law, concerning customer service that imposes customer service requirements that exceed the standards set by the Commission under this section, *or that addresses matters not addressed by the standards set by the Commission under this section*."[74] Again, "this subchapter" refers to the entirety of the Cable Act. Congress thus recognized the ability of local communities to establish rules that are over and above those of the Commission. Each of these statutory reservations is incompatible with the Commission's claim to be able to control "mixed-use networks" as broadly as it proposes to do in the FNPRM.

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[70] New York City Comments at 11.

[71] *See e.g.* Comments of Auburn, Washington, at 4 (Nov. 14, 2018).

[72] *Id.*

[73] 47 U.S.C. § 552(d).

[74] 47 U.S.C. § 552(d)(2) (emphasis added).

Finally, Public Knowledge notes that the Commission cannot preempt that which it claims it cannot regulate.[75] "The [Commission's] power to preempt is concomitant with its power to regulate. Absent an assertion of ancillary jurisdiction, the [Commission] lacks authority over information services. It therefore has no ability to preempt their state and local regulation."[76] Localities agree.

B. Commenters Who Support the Commission's Proposals Fail to Recognize and Respect the Police Powers of Localities, Which Remain Wholly Outside the Commission's Authority.

As LFAs asserted in our initial comments, assuming *arguendo* that the Commission may limit local authority granted by the Cable Act, nothing in the record provides any basis upon which the Commission may purport to supersede local police powers, or other sources of power granted to localities by the states.[77] Such action would amount to federal preemption of states' police power. Case law stresses the importance of states' police powers and indicates that they may only be preempted by Congress, rather than by the Commission. In such instances, the courts employ a strong presumption that preemption has not occurred unless clearly intended by Congress.[78]

Numerous municipal commenters highlighted their ongoing right, and obligation, to manage the public rights-of-way for the health, safety, and benefit of the public. As cable operators seek to use their cable franchises as plenary authority to deploy small cells and other wireless facilities in the public rights-of-way, however, the Commission and cable operators appear dead-set on choking off these police powers.

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[75] Comments of Public Knowledge at 1 (Nov. 14, 2018).

[76] *Id.*

[77] Localities Comments at 4, 37-40.

[78] *Knox v. Brnovich*, 907 F.3d 1167, 1173-74 (9th Cir, 2018).

Recently, the Commission, in another proceeding, required that local governments impose no more burdensome requirements on small cell facilities in the public rights-of-way than they impose on any other occupant. Yet here, the Commission proposes (with the enthusiastic support of NCTA,[79] ACA,[80] and Verizon[81]) to flatly prohibit all regulation of "mixed-use networks" – which might include small cells. Under such a rule, local governments, despite retaining full police powers reserved to the individual states and duly passed down to them consistent with state and federal constitutions, may find themselves prohibited from regulating *any* small cells in the public rights-of-way, because the Commission's unsubstantiated interpretation of the Cable Act prohibits all regulation of cable operator facilities. Additionally, since other Congressional and Commission rules prohibit imposing any more burden on one provider than is imposed on others, those localities may find themselves wholly unable to exercise their police powers to manage their public rights-of-way.[82] No commenter that supports the Commission's position recognizes these issues, let alone proffers any legal argument to support so sweeping an action as to declare that the Cable Act, and the convenience of cable operators, supersedes all local police powers.

The Commission's unsubstantiated interpretation of the Cable Act that it prohibits all regulation of cable operator facilities finds the Commission going beyond its earlier positions on

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[79] NCTA Comments at 6.

[80] ACA Comments at 9.

[81] Verizon Comments at 6.

[82] *See e.g*. 47 U.S.C. § 332(c)(7)(B)(i) ("The regulation of the placement, construction, and modification of personal wireless service facilities by any State or local government or instrumentality thereof (I) shall not unreasonably discriminate among providers of functionally equivalent services."); *see also* Declaratory Ruling and Third Report and Order, *In the Matter of Accelerating Wireless Broadband Deployment By Removing Barriers to Infrastructure Investment,* FCC 18-133, WT Docket No. 17-79, WC Docket No. 17-84, at ¶ 86 (rel. Sep. 28, 2018).

the subject and, without a legal basis, expanding the scope of its prohibitions from services to facilities.[83]

V. THE COMMISSION MUST REJECT CALLS TO APPLY ITS FLAWED PROPOSALS TO STATE-LEVEL FRANCHISING FRAMEWORKS.

Most commenters call on the Commission to reject its flawed proposals to redefine what constitutes a franchise fee and limit an LFA's ability to oversee mixed use networks at the local level. By extension, the commenters express their opposition to applying these flawed proposal at the state level.[84] The logic is simple. A reinterpretation of franchise fees and mixed use networks oversight at the local level is flawed, contrary to the Cable Act's goal of encouraging the growth and development of cable systems,[85] and not entitled to Chevron deference. Therefore, it follows logically that extending these flawed proposals to state level franchises is equally flawed.

A. Preempting State Franchise Laws Absent A Record Of Need Violates The Cable Act And Could Negatively Impact Competition And Choice Of Service Providers.

The City of Arlington, Texas reminds the Commission that Congress established among the six purposes of the Cable Communications Act that it should "establish franchise procedures

[83] FNPRM at ¶ 7.

[84] *See e.g.* Hawaii Comments at 3-4 (After making the case that the legislative history of the Cable Act makes clear that cable-related franchise requirements are not franchise fees and that the proposal would threaten the cable act's goal of providing all Americans with access to cable technology through peg access, Hawaii goes on to assert that there is no evidentiary basis to support expanding the rule to states.) *See also* Philadelphia Comments at 51-52 (Citing its prior explanations of why the Commission lacks the ability to interpret well-settled terms in the Cable Act, and that it was Congress' intent to "encourage the growth and development of cable systems, Philadelphia concludes: "Applying the Commission's decisions in the First Report and Order and Second Report Order to state level franchising actions or state level cable franchising regulations, as the Commission has suggested, would be contrary to Congress' intent and the Cable Act's purpose.")

[85] 47 U.S.C. § 521.

which encourage the growth and development of cable systems and which assure that cable systems are responsive to the needs of an interests of the local community."[86] Arlington then joins with other local government commenters in asserting that the Cable Act does not authorize the Commission to enact preemptive measures by interpreting well-settled terms in the Cable Act[87] and that it is only logical, therefore, that the Commission lacks the authority to impose such flawed analysis to those states that have adopted state cable franchises.[88]

Many state franchise laws provide for PEG channels and funding, together with other benefits, just as local franchises do. In addition, some state franchises extend by their terms to "video service providers," sweeping more broadly than the definition of "cable system" in the Act, obviating potential disputes over whether a provider of cable service is a "cable operator," and establishing a broad base for these benefits to subscribers and the public. Extending the Commission's rules to state-level franchises would thus create additional problems, which the FNPRM fails to address. Thus, for example, the Cities of Arlington and Austin assert that to overturn Texas law as it now operates would violate the goals of 47 U.S.C. § 521.[89] And in

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[86] Comments of the City of Arlington, Texas at 1 (Nov. 14, 2018) (citing 47 U.S.C. § 521); *see also* Rep. Pocan Letter, Exhibit 1F ("A rulemaking that implements the Cable Act should not undermine its goals.").

[87] *See* Philadelphia Comments at 51-52; Hawaii Comments at 3..

[88] *See* Philadelphia Comments at 52; Cities Coalition Comments at 23-24; Comments of the Alliance for Communications Democracy at 3 (Nov. 14, 2018); Comments of the City and County of San Francisco at 6 (Nov. 14, 2018) ("San Francisco Comments") (Under California law, the value of PEG channel access should be excluded from the definition of "franchise fee" in the Cable Act.)

[89] *See* 47 U.S.C. § 521. The record in this proceeding reveals that a number of benefits could be lost under the Commission's proposal. *See e.g*. Arlington Comments at 6 ("[As a result of state franchise laws in Texas] in Arlington, AT&T UVerse has entered the market in competition with our historic cable providers Time Warner Spectrum.") Comments of the City of Austin, Texas, at 3 (Nov. 14, 2018) ("Austin Comments") ("While [Texas state franchise law] limited local control and capped local fees for franchise obligations, we are now 13 years into its regime and it has worked well for Austin…It allows the City to collect reasonable compensation for use of the

Wisconsin, state law provides that cable operators need only provide channel capacity and transmission from origination points; localities "pay for all operating and capital expenses for the PEG channels out of the franchise fee."[90] The FNPRM's proposals raise the specter that, "if Wisconsin municipalities also have to pay for the PEG channels themselves, it would force nearly all cities to abandon their channels for lack of funds."[91] Adoption of the FNPRM could void some state laws or render them unconstitutional under that state's constitutions, thus undercutting what the Commission itself considers is a pro-competitive alternatives to traditional Cable Act franchising.[92]

B. Preempting State Franchise Laws Results only in Private Gain, Not in Meeting Community Needs as Outlined by Congress.

The only basis cited by those few supporters of the FNPRM is for nationwide consistency, whether franchising is handled locally or at the state level.[93] But while nationwide uniformity may have superficial appeal, it runs counter to a foundational principle of the Act: that cable-related needs and interests are different from one local community to the next, and

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ROW and to fund PEG and other public services while allowing access to new cable providers which has improved consumer choice, service and reliability."). The City and County of San Francisco also counts as a gain under the state franchise law the provision of PEG by AT&T as a video service provider. San Francisco Comments at 4 ("AT&T, which serves San Francisco, is among the state franchise holders in California that are not also cable operators.").

[90] Rep. Pocan Letter, Exhibit 1F, at 1.

[91] *Id.*

[92] Austin Comments at 6 ("No evidence that one percent fee [under state law] has an adverse impact on cable investment…[to] the contrary, since the enactment of SB 5 the number of companies competing for Voice, video and broadband has doubled from two to four"); *Id.* at 7 ("[S]ince enactment of SB 5, broadband speed in Austin has more than tripled up to 1 -gigabit provide by all carriers a prices previously charged for much slower speeds.").

[93] *See* Verizon Comments at 11-12; NCTA Comments at 59.

must be addressed on a correspondingly individualized basis.[94] It also runs counter to the valid distinction the Commission initially drew in exempting these state laws: they are different enough among themselves, and from franchising schemes that reach only Title VI facilities, that it makes little sense to declare that the same rules can or should apply.

Verizon's approach ignores several fundamental considerations. First, while Verizon acknowledges that state franchise regulation may be "modeled on the federal act," that is not always the case.[95] As we described in our initial comments, states like Texas and California have different, broader state franchising laws that encompass "video service providers" – a class which contains more than just cable operators as defined by the federal Cable Act.[96] Imposing uniform interpretations across all states would upset the decisions that those states made, and threaten those state franchising laws – franchising laws that many cable operators and video service providers supported and from which they benefit.[97]

Furthermore, state franchising laws were adopted in response to alleged barriers to entry, which purportedly inhibited competition in the cable services market. But the record is devoid of evidence that state franchises have caused any harm to cable operators or in any way inhibited competition and investment; in light of the Commission's prior rulings, such evidence is a necessary predicate to a Commission conclusion that extension of the FNPRM's policies to state franchises is necessary or justified. Of course, nothing in the record demonstrates that this is the

[94] Most Localities fought hard against state cable franchise laws based upon this concept: that the level of government closet to the people could best identify and meets its cable needs and enforce local standards. Our opposition to extending the Commission's flawed proposals to state franchise statutes should not be read as support for state franchise laws, but merely a recognition that a concept that is flawed for local government franchising is equally flawed when applied to the states.

[95] Verizon Comments at 11.

[96] Localities Comments at 44-45.

[97] *Id.*

case with respect to local franchises, either – the record is, as noted above, wholly devoid of substantive evidence of actual harm to deployment or competition allegedly caused by franchise requirements

As Localities noted in our opening comments, state franchising statutes are diverse and complex, and the FNPRM failed to ask questions sufficient to develop a record capable of supporting action.[98] For instance, as IMLA points out "there are also administrative and public safety issues for local governments associated with the Commission's tentative conclusions." [99] Among these are the burden of renegotiating agreements between LFAs and cable franchisees to comply with these changes.[100] Exacerbating this problem for both parties is that under many state franchise laws there is no contractual relationship between the local community and the cable or video service provider, and the state has not designated any agency to conduct such negotiations, but merely designated an agency to accept the provider's corporate papers which contain promises to abide by the state's franchise laws.

VI. A CABLE OPERATOR THAT PROVIDES OVER THE TOP VIDEO PROGRAMMING WITHIN ITS FRANCHISED AREA IS A CABLE OPERATOR UNDER THE CABLE ACT.

Verizon asks the Commission to "confirm"[101] that an "Over the Top" Video Service provider is not a cable operator, even if it is providing cable service over its own system to its

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[98] *Id.* at 47.

[99] IMLA Comments at 5; *see also* Comments of King County, Washington, at 9 (Nov. 14 2018).

[100] IMLA Comments at 5.

[101] The Commission cannot confirm that which it never held. This issue was raised in a previous proceeding but not resolved by the Commission. *See Promoting Innovation and Competition in the Provision of Multichannel Video Programming Distribution Services*, Notice of Proposed Rulemaking, MB Docket No. 14-261 (rel. Dec. 19, 2014). Numerous commenters, including many of the Localities submitting these comments, demonstrated that cable operator-provided over-the-top services are no different in any legally significant way from any other video service provided by a cable operator, and that the cable operator's choice of bandwidth within its

own subscribers.[102] That issue is not before the Commission in this proceeding, and the Commission has made no such finding in the past.

Verizon is, in effect, asking the Commission to bless a cable operator's continued occupancy of the rights-of-way, rent-free, while it uses its system to deliver video services that are, for all intents and purposes, identical to the services now being delivered by the system. No such exclusion can be inferred from the Act. In fact, the Act is technology-neutral, and the delivery of video services by companies like Verizon is only excluded from franchising requirements in very limited circumstances prescribed by Section 651 of the Act.[103] The delivery of video services "over-the-top" does not fit within the exceptions. Such a radical upheaval would totally compromise the balance of interests embodied in the cable act, and stand in stark contrast to cable operators' assertions that they do, in fact, pay fair compensation for their use of the public rights-of-way.[104]

Additionally, Verizon's comments carefully avoid any actual analysis of the definition of "cable service" under the Act, most likely because working through the definition would demonstrate that Verizon's position is incorrect.[105] The Commission should avoid Verizon's suggestion; to adopt it would be yet more unjustified Commission overreach.

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network cannot free it from the obligations it voluntarily accepted in exchange for use of a community's rights-of-way. *See generally* Comments of Anne Arundel County, Maryland, *et al.*, MB Docket No. 14-261 (Mar. 3, 2015).

[102] Verizon Comments at 9.

[103] *See* 47 U.S.C. § 571.

[104] *See* Localities Comments at 5-14.

[105] *See* Verizon Comments at 9.

VII. THE COMMISSION SHOULD FOCUS ITS EFFORTS ON PROTECTING THE PUBLIC, NOT GRANTING GIFTS TO CABLE OPERATORS.

A. The Commission Must Avoid Repeating Its Mistaken Reliance on Its Flawed and Unsubstantiated Economic Theories.

The Commission and cable industry commenters, without basis, contend that punishing LFAs to the benefit of cable operators will result in lower prices for consumers and improved deployment of communications technologies, including broadband Internet access.[106] The record reflects a complete absence of substantive economic evidence that stripping rights and benefits from local communities will increase deployment. Rather, Localities have provided the Commission with numerous economic studies to the contrary. [107] These studies demonstrate that the economic basis that the Commission uses to justify its proposals is based on the unsupportable assumption that by allowing greater profits in one area, cable operators will automatically be incentivized to deploy services in different, otherwise unprofitable or underserved areas.

The Commission's argument continues to defy simple logic, and is no better substantiated here than in other recent Commission proceedings. Even its staunchest supporter

[106] FNPRM at ¶¶ 1, 30; NCTA Comments at 1, 28-32; ACA Comments at 3.

[107] Unrebutted economic analysis demonstrated that this conclusion was, to put it mildly, nonsense. See, e.g. Comments of the Smart Communities and Special Districts Coalition, WT Docket No. 17-79, at Exhibit 2, Declaration of Dr. Kevin E. Cahill, Ph.D (Jun. 15, 2017) (attached hereto as Exhibit 2); Comments of the Smart Communities and Special Districts Coalition, WC Docket No. 17-84, at fn. 2 (Jun. 15, 2017) (citing Reply Comments of the City of Portland, Oregon, WC Docket No. 11-59, Attached Report of Alan Pearce, Ph.D. (filed Sep. 30, 2011)) (attached hereto as Exhibit 3); *id.* at fn. 64 (citing Comments of the National Association of Telecommunications Officers and Advisors et al, GN Docket Nos. 19-47, 09-51, 09-137, at Appendix 12, Report of Ed Whitelaw (filed Nov. 6, 2009)) (attached hereto as Exhibit 4); *id*. at fn. 88 (referencing Comments of the National League of Cities, et al, WC Docket No. 11-59, at Exhibit G, Effect on Broadband Deployment of Local Government Right of Way Fees and Practices (Jul. 18, 2011)) (attached hereto as Exhibit 5); Letter from the Coalition for Local Internet Choice, WT Docket No. 17-79 (Sep. 18, 2018) (including letter and remarks from Blair Levin, former FCC Chief of Staff and Executive Director of the National Broadband Plan); Letter from the City of Eugene, Oregon, WT Docket No. 17-79, at 4-9 (Sep. 19, 2018).

in this proceeding, ACA, admits that the theory is flawed. ACA concedes that, but for requirements that cable operators build to underserved areas, such buildout simply would not happen as quickly, if at all.[108] ACA does not argue, as the Commission might prefer, that but for costly buildout requirements, it would deploy in other areas more quickly or efficiently; it simply concedes that, if its members were not forced to do so, they would not deploy faster.[109] Nothing in the record suggests that the direct financial windfall to cable operators, which the Commission here contemplates, would change that calculus.

B. The Commission Should Focus On Protecting the Public From Abusive Practices Commonplace In the Video Marketplace, Rather than Providing Financial Windfalls To Cable Operators.

Rather than exploring ways to remove billions of dollars in public benefits under franchising practices that predate even the Cable Act, the Commission should focus on the abuses of an industry whose customer satisfaction ratings are at an 11-year low as measured by the American Customer Satisfaction Index.[110] "Subscription Television Service" as an industry shares the worst ranking with "internet service providers" – in most cases, the very same companies that provide TV service. Nevertheless, the Commission continues to ignore other issues as it seeks to further benefit this industry.

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[108] *See* ACA Comments at 7; *see also* Section III.D, *infra*.

[109] ACA Comments at 7.

[110] https://www.theacsi.org/news-and-resources/customer-satisfaction-reports/reports-2018/acsi-telecommunications-report-2018/acsi-telecommunications-report-2018-download. ACSI's 2018 report found that, of all the industries it benchmarks, "subscription television service" is tied for worst-rated with internet service providers.

For example, the Commission has for almost nine months failed to act on petitions for special relief brought by local governments harmed by TV blackouts.[111] During those blackouts, the cable operator continued to charge broadcast TV surcharges for content it failed to deliver, in addition to otherwise failing comply with the Commission's customer notice standards. The Commission has not turned its attention to below-the-line fees, which cable operators use to increase the true cost of service to increase revenue without explicitly raising prices. Nor has the Commission seen fit to address retransmission consent disputes or the high cost of programming in general, which cable operators themselves bemoan as a significant source of rising consumer cable prices.[112] The Commission has also failed to address bundling, tying, or tiering arrangements, or most favored nation clauses, which deprive both cable operators and consumers of choices in which channels they carry and receive, respectively, and which further contribute to ever increasing video prices.[113]

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[111] *See, e.g.* Petitions of Yuma, Arizona, Jackson, Wyoming, El Centro, California, and Crescent City, California, MB Docket Nos. 18-91, 18-101 (filed Mar. 22, 2018 and Apr. 4, 2018, respectively).

[112] For example, in Montgomery County, Maryland, which is served by 3 franchised cable television operators, all three cable operators announced rate increases in 2018. Comcast is raising its Broadcast TV fee from $8.00 to $10.00 and its Regional Sports Fee from $6.75 to $8.25 per month; Verizon FiOS is respectively raising these two fees from $3.49 to $4.49 and from $6.39 to $7.78 per month; and RCN is respectively raising each these two fees over $10 per month from $2.50 to $13.28, and from $2.75 to $12.57. Customers cannot decline these tiers or fees. Thus, in a highly competitive market, cable operators charge an additional $12.27 to $25.87 to receive any program tier, without including these fees into the advertised price. https://www.montgomerycountymd.gov/cable/Resources/Files/newsitems/Comcast%20rate%20increase%20Dec%202018.pdf; https://www.montgomerycountymd.gov/cable/RateIncreases/verizon-rate-increase-may-2018.html; https://www.montgomerycountymd.gov/cable/Resources/Files/rate%20increases%202019/00206B4088C9181203164415.pdf

[113] Leichtman Research Group found in October 2018 that "mean reported monthly spending on pay-TV service among subscribers is about $107." *See* Leichtman Research Group, *78% of TV Households Subscribe to a Pay-TV Service* (Oct. 31, 2018), https://www.leichtmanresearch.com/78-of-tv-households-subscribe-to-a-pay-tv-service/. Leichtman Research publishes data on this subject each year, and in September 2015 noted that the mean monthly spend was "$99.10 – an increase of 39% since 2010." Leichtman Research

There are, in sum, a plethora of problems in the video marketplace, many of which the Commission has authority to address, but none of which it seems to consider as important as finding ways to give cable operators additional tens of millions of dollars, in the vain (and baseless) hope that throwing even more deregulation at the problem will somehow change the result.

VIII. RESPONSES TO NCTA ALLEGATIONS AGAINST SPECIFIC COMMUNITIES.

A. Sacramento, California

1. *An Opening Bid is Not a Mandate Especially when it is never Enforced.*

NCTA, citing a report from 1977, recycles a 40-year-old claim that Sacramento, California drafted a cable ordinance requiring the planting of 20,000 trees.[114] What NCTA fails to share with the Commission, and other readers, is that the ordinance was drafted pre-Cable Act and the Commission regulations that it spawned. Intonating that an action violated the Cable Act when the Cable Act had yet to be enacted deserves points for creativity, but not for credibility.

NCTA further fails to mention that the 20,000 trees that have been referenced time and again against LFAs were never planted, nor were they ever required to be planted. Moreover, NCTA does not outline the rest of the terms of the opening bid by way of ordinance, so that the Commission might see what the City was willing to sacrifice in exchange for the trees.

Because the year was 1977, and cable franchise negotiations were not the established marketplace of today, communities went about issuing original franchises in numerous ways. In the case of Sacramento, the county and the cities within it created the Sacramento Metropolitan Cable Television Commission ("SMCTC") which issued the original franchises. Later, in

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Group, *83% of U.S. Households Subscribe to a Pay-TV Service*, (Sept. 3, 2015), https://www.leichtmanresearch.com/83-of-u-s-households-subscribe-to-a-pay-tv-service/.

[114] NCTA Comments at 42.

approximately 1987, SMCTC adopted a franchising (called licensing) ordinance under which a cable operator could receive a cable franchise as a ministerial permit by agreeing to comply with the terms in the licensing ordinance – showing that it had insurance, documenting that no officers had felony records, and posting minimal security for building out.

A review of the record, again not shared by NCTA, reveals that the SMCTC and applicants entered into an amended and restated agreement with the original franchisee that removed the vast majority of the obligations under the original franchise ordinance, which would have included the tree planting obligation had it ever in fact been required. It seems clear that at the time, all parties understood that the ordinance was nothing more than the opening request of the City, and the parties negotiated terms that would work for both. It is time to put this old myth to rest. If all NCTA can cite is a peculiar way of arriving at a negotiated agreement forty years ago, it has not yet begun to make a case that there are any issues the Commission must now address.

2. *False Claim of GAAP Supremacy and Gross Revenue Definition*

NCTA claims "… the Sacramento Metropolitan Cable Television Commission ("SMCTC"), … [seeks] to exceed the five percent franchise fee cap by expanding the definition of 'gross revenues' outside of accounting norms and beyond what was contemplated when Congress established the cap."[115] Specifically, NCTA accuses SMCTC of rejecting the Generally Accepted Accounting Principles ("GAAP") and suing a cable operator in an attempt to expand the collection of franchise fees on revenues earned from ancillary fees (like late payment fees) that came from multi-service customers (arguing that cable operators should pay on 100 percent of the late fee revenue from multi-service customers even though GAAP dictates that the

[115] *Id.* at 45.

revenue should be allocated proportionately between cable and non-cable services earned from service bundles).[116]

Moreover, NCTA overstates the supremacy of GAAP in resolving franchise fee conflicts. There is nothing in the governing laws of the Sacramento cable franchise, Cable Act, Commission regulations, the cable franchise itself, or California's state video service franchising law, commonly referred to as DIVCA,[117] that makes GAAP determinative in resolving franchise fee conflicts. In the Second Report and Order in this proceeding, the Commission was clear: "We decline to adopt a requirement that an operator's gross income be determined under Generally Accepted Accounting Principles[]."[118] It is hardly an abuse for SMCTC to refuse to abide by a standard this Commission found was not the determinative measure

Additionally, NCTA does accurately report that the matter is before a court, but fails to note that the litigation is at the initiation of the SMCTC to resolve this issues. The Commission is not seeking to enforce any rule that it cannot justify before an independent tribunal and is ready to abide by the court's decision. How this somehow rises to the claim that Sacramento is seeking to skirt the provisions of the Cable Act escapes understanding.

Finally, while well beyond the scope of this proceeding, NCTA has not shown that GAAP "dictates" the kind of novel allocation NCTA wants to introduce. NCTA cites no sources for the notion that a fixed ancillary fee, such as a five-dollar late fee, that does not depend on the price of the services on the bill must be broken down into separate fees on different services when the cable operator does not charge it as such, regardless of the terms agreed to by the parties.

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[116] *Id.*

[117] CA Pub. Utils. Code § 5800 et seq.

[118] *Second Report and Order*, MB Docket No. 05-311, 22 F.C.C. Rcd. 19633, ¶ 19 (2007).

B. The City of Yuma, Arizona

NCTA's criticisms of the Yuma franchise[119] demonstrate the problems presented by the Commission's proposed interpretation of the Act. Charter is not the franchisee in Yuma: a subsidiary of Charter, Time Warner Cable Pacific West, LLC is the franchisee.[120] A franchise was agreed to in 2015 by Time Warner prior to the acquisition of the Time Warner companies by Charter, after extended negotiations that included compromises on matters such as line extension. Yuma and the surrounding County are growing very quickly, and the City has traditionally expanded through annexation. The line extension provisions limited the company's obligation to build-out before density reached certain limits specified in the franchise.[121]

In return, and as part of the overall compromise, Time Warner agreed, among other things, to continue the long-standing practice of providing free services to schools and did so without controversy. Time Warner read the Second Report and Order in this proceeding as did Yuma and other entities based on the Commission's own representations to the 6th Circuit[122] – namely, that such service was not "in-kind" and was not addressed by the Commission's Section 621 Order – a point the 6th Circuit confirmed. The license contained other significant provisions. In Section 3(b), contrary to Charter's suggestion, the license made it clear that:

> [i]n the event that, a change in state or federal laws, rules, or regulations after the effective date hereof preempts a provision or limits the enforceability of a provision of this Agreement, then, subject to the provisions of the previous paragraph, the provision

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[119] NCTA at 57.

[120] In Arizona, cable operators typically received their rights to occupy rights of way to provide cable via a license, but the license and licensee are, respectively, a franchise and franchisee within the meaning of federal law. We use the federal terms rather than the state terms for convenience.

[121] *See* License Agreement, Section 4.

[122] *Montgomery County v. FCC,* 863 F.3d 485, 490 (6th Cir. 2017).

> shall be read to be preempted to the extent and for the time, but only to the extent and for the time, required by law.[123]

That is, Charter was never required to violate federal law. However, Section 3(a) provided that in the event a material provision of the license, such as the free service provision, was preempted, the parties would meet and discuss a substitute to restore the relative benefits and burdens of the franchise. If no agreement could be reached, the license could be terminated assuming a court determined the change amounted to a failure of consideration.

When Charter moved to acquire the system, it was widely known that Charter was unilaterally ignoring franchise obligations to provide free services and taking unilateral offsets against franchise fees – something that the Commission Order then under review expressly prohibited. The City therefore gave Charter a choice: it could agree to live with the franchise as is, or if it was not willing to do so, the parties would need to agree on new franchise terms before the franchise could be transferred. That is, consistent with the franchise, all the City required was that Charter live up to the deal that had been struck by Time Warner or agree to substitute terms. Therefore, the actual condition about which Charter complains is in a Transfer Agreement, and not in the franchise. The Transfer Agreement secured the transaction for Charter, under terms Charter considered acceptable, and in circumstances in which the City would have been within its rights not to grant the transfer (and under the franchise, Section 13, acquire the franchise itself).

That is, the story of Yuma is not one of municipal abuse of operators, but of compromise in negotiations – exactly what the Cable Act envisions as the means for ensuring that the needs and interests of the community are served. Moreover, the guarantee sought by Yuma (no unilateral offset) was entirely consistent with the law at the time, and appropriate under the

[123] City of Yuma Franchise Agreement, Section 3(a).

Commission's own orders. If the Commission changes the law now based on its new interpretation,[124] it will upset carefully crafted agreements, based on the parties' reliance on the Commission's prior rulings. Upsetting that reliance interest for existing licenses If the Commission does seek to preempt existing agreements, rather than speeding deployment, it may embroil the industry in a wave of terminations and renegotiations.

C. Montgomery County, Maryland

The criticisms of Montgomery County are likewise misplaced. Montgomery County estimates that Comcast, Verizon and RCN earn almost $350,000,000 in annual cable revenues from over 250,000 Montgomery County subscribers. While NCTA suggests that the latest franchise renewal (finalized in April, 2016) imposed a demanding set of new so-called "in-kind" requirements on franchisee Comcast, in actuality the renewed franchise contains no new "in-kind" payments and *reduced* franchise obligations.[125] Far from being a one-sided negotiation, the franchise reflected exactly the sort of give and take that the Cable Act envisioned, and resulted in franchise agreements that contained requirements *in addition to the franchise* that the Cable Act envisioned, and that the Commission had long endorsed. NCTA's passing reference to the institutional network suggests that NCTA is not familiar with those requirements, which date back to the original cable franchises issued by the County. Over the course of three decades,

[124] There is no serious argument that this is a mere clarification of existing interpretations. *See* Localities Comments at i-iv; 11-14.

[125] Comcast has never claimed that it is losing money in Montgomery County (it is not); it did insist that it (a) not be required to pass by and connect businesses; and (b) pass by and connect residential units, without regard to development density. The County accepted these requirements, and so the franchise reflects a careful compromise. As part of that compromise, the County is working with residents to create consortia who agree to take cable service as a group – a process that reduces the cost to Comcast of extension. Were the Commission rule to be adopted, and the underlying franchise voided, the compromises reflected in the franchise would necessarily disappear.

Montgomery County has (i) installed fiber on its own, at its own cost that it uses to connect facilities; (ii) paid the cable franchisee to construct institutional network capacity; and (iii) required the company to install some institutional network capacity as part of the construction of the cable system. Costs to the company should have been relatively minor over the term, as the franchise envisioned installation of the I-Net in conjunction with construction of the cable system itself. The same lessons apply with respect to the institutional network that apply with respect to free services: requirements are *less* burdensome; and whatever costs have been incurred have no conceivable effect on future deployments. Local insistence on an institutional network has encouraged operators to build capacity for similar commercial uses, and that capacity now provides a foundation for traditional data and IoT services. We rebut in order, NCTA's four claims against Montgomery County.

First, NTCA's assertion that Montgomery County required the cable operator to provide another three percent of annual cable service revenues is misleading.[126] All three of Montgomery County's cable franchise agreements require three percent of gross revenues for PEG and I-Net capital. As part of a settlement agreement, Comcast and County negotiated that the PEG-I-Net capital grant could be used for PEG programming if the County agreed to provide a match amount of PEG program operating funds. Cable operator RCN also agreed to allow the PEG-I-Net capital grant to be used for PEG operations as part of a settlement agreement.

Moreover, the $10,000 per PEG channel position reassignment charge represents a negotiated compromise to address demands of both parties. Like most commercial and non-commercial broadcast and cable channels, the names of PEG channels frequently included the channel number as part of the channel name, to facilitate the ability of viewers to find the

[126] NCTA Comments at 43.

channels. With the addition of new digital tiers, and HD tiers, the same channel number is not always available, nor is the same channel number necessarily available on all three cable systems. The County had requested that Comcast not be able to reassign the channels from their current channel numbers, something it could have done. However Comcast wanted the ability to reassign these channels if necessary. The parties therefore compromised to grant Comcast the ability to reassign these channels, if necessary, in exchange for $10,000 per channel assignment. The funding would enable the cable channel to provide promotional education outside the current channel to enable viewers to understand that the channel is now located on a different channel number. Treating such compromises as fees will actually discourage what is a rational *quid pro quo*.

Second, NCTA's assertion that the fiber connections and existing I-Net are unrelated to PEG access is false. The definition of public access facilities in the Cable Act specifically refers to PEG capacity, so costs that the operator incurs to provide that capacity would by definition be capital costs, and cannot be deducted from the franchise fee under any theory. The County uses its fiber network to transmit PEG access content from seven local origination locations back to a single technical operations centers, where a hand-off is made to the three cable operators. The County also uses the fiber network for live transmission of PEG programming from any of the connected government, school, college, and community centers. Moreover, the County negotiated with RCN delivery of cable programming that could be transmitted to any connected government or educational location, thus reducing in the near future, the number of courtesy cable drops required from the other two cable operators. Rather than being criticized (or being treated as a deduction against franchise fees), this is the sort of arrangement that *reduces* costs, and should be permissible.[127]

Moreover, in 1998, Comcast and the County agreed that where the County paid for the I-Net facilities, the County would obtain ownership at the end of the franchise term, and where the company had paid for the facilities, the County would have a purchase option at a contractually agreed price. In the 2016 franchise, by contrast, there is no new institutional network requirement; use of the institutional network constructed pursuant to the prior franchises, including the purchase option, are addressed by separate contract. Whatever costs the company may have incurred in building the network are long since been recovered. In more detail, upon entering into the 1998 Franchise, Comcast needed to significantly upgrade its networks. At the time, Comcast and Montgomery County agreed that Comcast would provide fiber to a fixed number of locations (mostly fire stations and government buildings) in lieu of other franchise obligations, and that the County would pay Comcast to build fiber to additional locations (mostly public high schools and middle schools). Thus, Comcast received substantial benefits through this compromise, including the ability to reduce its own construction costs through joint

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[127] In its initial Section 621 order, the Commission recognized that providing alternatives for satisfying otherwise permissible requirements was not only lawful, but necessary. In the initial Sec. 621 Order, the Commission recognized that local governments had the authority to require institutional networks (in addition to requiring payments of franchise fees) but cautioned that:"[C]ompletely duplicative PEG and I-Net requirements imposed by LFAs would be unreasonable. Such duplication generally would be inefficient and would provide minimal additional benefits to the public, unless it was required to address an LFA's particular concern regarding redundancy needed for, for example, public safety. We clarify that an I-Net requirement is not duplicative if it would provide additional capability or functionality, beyond that provided by existing I-Net facilities. We note, however, that <u>we would expect an LFA to consider whether a competitive franchisee can provide such additional functionality by providing financial support or actual equipment to supplement existing I-Net facilities, rather than by constructing new I-Net facilities</u>." It is hard to imagine why it would be lawful to provide a cheaper means for a new entrant to satisfy I-Net requirements, but unlawful to give an incumbent a simple alternative for providing equivalent capacity.

construction. Notably, Comcast been able to leverage these negotiated connections to schools to bid on and receive funding for e-rate services from Montgomery County Public Schools. As NCTA would have it, the Commission should enable Comcast to offset against franchise fees, the value of fiber the County already paid for and which the County is already maintaining. This would be a strange result indeed, and only illustrates the dangers of relying on NCTA's mischaracterizations as a basis for finding either abuses or Cable Act violations the Commission needs to address.

As its third point, NCTA claims that Montgomery County required Comcast to provide hundreds of free drops, and that each drop in Montgomery County is worth roughly $1,000. The free drop requirements were included as part of franchise requirements which pre-dated the adoption of the Cable Act, and were later continued as part of extensions and renewals of the franchise agreements.[128] Thus, for example, the 1998 franchise renewal provided for free drops to certain buildings. Even if relevant, cost (or value) of those drops would have long since been recovered in rates. Moreover, Comcast has significantly diminished the value of these drops. When Comcast moved to an encrypted digital signal, Comcast would only provide three set boxes per location. Thus, in a school where teachers had tried to use "Cable in the Classroom" to teach history and science programs, they now found that the cable signal could no longer be transmitted to all classrooms. Rather, there were now only three classrooms in the school that would be equipped with set boxes to view the signals, and additional equipment would be necessary to enable transmission of digital frequency signals. During negotiations with Comcast,

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[128] Montgomery County franchise agreements were complicated by a series of non-compliance issues, ultimately addressed through settlement agreements. Those issues date back to the initial installation of the cable plant and problems arising from the initial design of the system experienced difficulties, including serious construction problems, in complying with the franchise agreement within a few months after work on the system began. *Tribune-United Cable of Montgomery Cty. v. Montgomery Cty., Md.*, 784 F.2d 1227, 1228 (4th Cir. 1986).

the County offered to have Comcast deliver a package of services (which, as far as the County is aware, cost nothing to the company) via existing connections and capacity to the County, and the County offered to take responsibility for distributing the signals to locations that would otherwise. Comcast preferred the existing arrangement.

Moreover, where NCTA sees an invalid requirement for provision of Internet services, the parties to the agreement saw a mechanism for cutting costs: rather than requiring Comcast to provide an institutional network everywhere, and dedicate capacity on that network everywhere, the County permitted the company to provide virtual connections using cable modems.[129] Any unrecovered capital costs were in any case long ago recovered from the subscribers. Operational costs (maintenance costs) were chargeable to the County.[130]

NCTA's fourth point criticizing Montgomery County's PEG capacity requirements are no stronger than its other claims. Montgomery County's 1998 Comcast franchise provided for the set aside of 10% of the digital capacity of the system, and the provision of 13 analog channels of 6 MHz each.[131] When Comcast converted its system to digital, Comcast did not met the franchise obligation to set aside 10 percent of the capacity for local community channels. During the course of the franchise, the County allowed Comcast to take back two channels to provide channel capacity for the Nationals baseball team (MASN-2) and a NASA channel. Comcast was also able to provide the remaining 11 PEG channels using much less than 6 MHz per channel.[132] Rather, during the negotiations, the County settled for 4 additional HD channels

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[129] Comcast 1998 Franchise, Section 7(i).

[130] *Id.* at Section 7(h-j).

[131] *Id.* at Section 7(a).

[132] Montgomery County is home to over 1 million residents in the Washington DC metro area. There are 18 smaller cities and towns located within the County. The County's community college system has 3 campuses and enrollment larger than enrollment at the University of

and a fifth channel after 3 years. Thus, the new franchise provides for more limited number of SD and HD channels, and leaves the operator free to make maximum use of available capacity through compression or other techniques, as long as the quality of the signal is comparable to other channels. Thus, *less* capacity, and not *more* is required.

To the extent that there is an issue here worth noting, it has nothing to do with abuses *of* cable operators, but of failures by the commission to ensure that the public can take advantage of cable resources. Montgomery County has on numerous occasions asked the Commission to address this disparate treatment as part of implementing the Twenty-First Century Communications and Video Accessibly Act, of 2010[133] and yet the Commission has refused to ensure that cable operators will provide PEG channels with the same signal quality or accessibility as cable operators provide for other local broadcast and national commercial channels. Thus, the notion that the new requirements place an undue burden on operators is belied by the actual operational history of the cable industry in Montgomery County, when it was subject to conditions that required the provision of far more channels, and more capacity.

From this, three key points emerge: first, since 1984, and even before, cable operators with the full knowledge of the Commission (as reflected in its representations to the Sixth Circuit), have been providing free connections in addition to paying franchise fees. That underlines the fact that the proposed Commission changes are an extreme departure from prior precedent. Second, the cost of those connections have been fully recovered from subscribers

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Maryland's flagship campus, located in an adjacent county. The Montgomery County PEG channels include one for the County government, two channels for the two largest cities in the County, one combined channel for remaining municipalities, two channels for the 155,000 student K-12 school system, 1 channel for the community college, 2 public access channels, and 2 channels for the University of Maryland.

[133] See e.g., Comments of Montgomery County, *In Re Accessibility of User Interfaces, and Video Programming Guides and Menues*, MB Docket No. 12-108

over the years. Valuations like NCTA's, which ignore that fact are misleading in the extreme. Third, the obligations place no significant burden on operators that could conceivably affect deployments. In fact, the requirements are consistent with the industry's own efforts to encourage free and low-cost deployments, something the industry has promoted through efforts like "Cable in the Classroom," and that the Commission has required as part of merger approvals and rate settlements.

D. Ramsey-Washington Suburban Cable Commission

NCTA alleges that certain franchise requirements, many of which are sanctioned by Congress in the Cable Act constitute abusive "demands and requirements" that harm competition and deployment.[134] One community complained of is Ramsey/Washington Suburban Cable Commission ("RWSCC"). NCTA's description of these franchise obligations with RWSCC are at best, incomplete, and in many respects inaccurate.

NCTA alleges as one such "abuse" the requirement in the RWSCC franchise that the cable operator provide "six PEG channels with an option to launch two more on request."[135] It is unclear why NCTA, or the cable operator, believe that PEG channel capacity – something expressly contemplated by the Cable Act as a condition for granting a franchise[136] – constitutes an "abuse" that NCTA alleges to be "widespread."[137] The mere provision of a PEG channels – expressly provided for by Congress in the Cable Act – cannot possibly be an "abuse" as NCTA claims.

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[134] NCTA Comments at 43.

[135] *Id.* at 44.

[136] *See* 47 U.S.C. § 541(a)(4)(B).

[137] NCTA Comments at 43.

Furthermore, NCTA fails to share with the Commission that the PEG obligation to the multiple communities of the RWSCC, is not a term negotiated during a franchise renewal, but rather it is a service that the cable operator offered as part of settlement agreement entered into voluntarily by the cable operator and RWSCC to resolve a lengthy dispute between the parties. The settlement was executed outside of the franchise renewal process and represented a negotiated compromise by both parties – not an imposition by a local franchising authority, as NCTA implies. Therefore, as the Commissions has previously noted,[138] settlement terms are not subject to franchise limitations and are improperly listed in this proceeding. Moreover, if settlement agreement terms are to be included, NCTA should have also listed the claims and enforcement powers waived by RWSCC. the alternative settlement benefits that the RWSCC chose to forego, and other favorable settlement terms favorable to the cable operator.

NCTA also inaccurately implies that a requirement that the cable operator provide "free cable hookups to anyone who wants to receive only the PEG service" is a franchise obligation.[139] NCTA first and foremost omits that this requirement was agreed to voluntarily as part of a 1995 settlement agreement "external to the Franchise" and in exchange for significant consideration from RWSCC.[140] Second, the obligation to provide "Universal PEG Service" is accompanied by significant conditions which benefit the cable operator, primarily by reducing or eliminating the burden of the obligation. The agreement allows the cable operator to "recoup the extra expense of such service […] as an inclusion in the PEG fee"[141] and specifies that the operator "shall pass through the PEG fee portion of subscribers' bills the costs of design and technical

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[138] *See* Section III.A-B, *infra*.

[139] NCTA Comments at 44.

[140] 1999 Memorandum of Understanding at 2.

[141] *Id.* at 4.

reconfiguration of the Universal PEG service."[142] So to the extent the requirement to make PEG service available to locations *already passed by the cable system*, the operator has had more than two decades, and the express right under the settlement, to recover those costs. This is hardly the "abuse" NCTA suggests it is. And subscribers are furthermore responsible for the costs of necessary equipment if they want to access the Universal PEG Service. As converter boxes are now necessary (they were not at the time of the settlement's adoption) customers who take advantage of this "free" service in fact *pay the cable operator* now. What the requirement does do is make basic information about the community available to everyone in the community, at no significant cost to the operator. Why this is a violation of the Act, or is abusive, is never explained.

NCTA next claims that the cable operator must provide "free, 32-mile dark fiber I-Net to 16 locations, which are used for governmental data purposes and have no relation to video or PEG channel services, and a separate hybrid-fiber-coax (HFC) network used to transport signals from 50 live video origination sites for PEG channels."[143] First, RWSCC *does* use the fiber I-Net for some video transport of PEG services – it is not, as NCTA claims, used only for purposes which "have no relation to video or PEG channel services."[144] Second, the I-Net is hardly "free" to RWSCC – while they are not charged for use of fiber bandwidth, they *do* pay for electronics needed to light the dark fiber, and for the ongoing technical management related to use of the system.[145] Specifically, "to the extent that the Company may charge for use of bandwidth

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[142] *Id.* at 5.

[143] *Id.*

[144] *Id.*

[145] *See, e.g.* Franchise Agreement Section 7.7.b, *available at* http://www.rwcable.com/RamseyPages/section7.html; Exhibit F at 2, *available at* http://www.rwcable.com/RamseyPages/Exhibits/ExhibitF.pdf.

pursuant to this Exhibit, such charges shall be at cost" meaning "additional, ongoing maintenance costs directly attributable to an institution's usage of I-Net capacity."[146] And finally, these I-Net requirements are pursuant to a franchise adopted in 1999 – the cable operator can hardly claim to have ongoing expenses associated with this requirement other than those maintenance and equipment costs already paid for by RWSCC or its members. There is, in sum, no sense in which the I-Net provided is "free." As to the "separate hybrid-fiber-coax" network, NCTA substantially overstates the impact of its use. It was, required pursuant to a 1999 franchise – ongoing capital costs are a nonissue. Second, this network is used for backhaul of PEG video signals, but it only generates approximately 15 live video signals at any particular time. Its use is, in other words, substantially lower than NCTA implies, and it is integral to the provision of PEG programming. I-Net obligations, it bears emphasizing, are by definition permitted under the Act; there is no basis for considering those requirements abusive. Based on the facts, there is also no reason to suspect that they have any adverse effect on deployment in the communities which make up RWSCC, or anywhere else.

Finally, NCTA alleges that the franchise entitles 60 locations to free cable service and an additional 19 to free Internet access. NCTA also claims that the franchise grants RWSCC the ability to add unlimited additional sites.[147] This is, generally, correct,[148] but again NCTA omits important facts on the ground, some already discussed in connection with the Montgomery County requirements (namely, that the Internet service requirements can be a cost-effective substitute, agreed to by the parties, for direct I-Net connections.) Thus, for example, while

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[146] *Id* at Exhibit F at 2.

[147] NCTA Comments at 44.

[148] *See* Franchise Agreement, Section 7.9, *available at* http://www.rwcable.com/RamseyPages/section7.html; *see also id.* at Exhibit E, *available at* http://www.rwcable.com/RamseyPages/Exhibits/ExhibitE.pdf.

RWSCC may request service to additional locations, those expansions are limited to "public or educational institution[s] not connected to the I-Net" for Internet service,[149] and only drops and outlets at additional locations must be installed at the cable operator's expense – the franchise agreement does not provide for free service at such locations.[150] Requirements for complimentary service are, in sum, not so unrestricted as NCTA suggests. In addition, NCTA fails to mention that several of the Internet drops agreed to by the cable operator in the franchise agreement nearly two decades ago, are not in use today. NCTA conveniently omits that fact, and thus conflates long-standing arrangements (many of which pre-date any Commission action interpreting Section 621) with current arrangements.

The complete picture is far from the highway robbery NCTA's depiction implies. Several obligations of the cable operator arise through settlements to resolve disputes (and not, as NCTA implies, through RWSCC-compelled franchise concessions), or are not nearly as broad in scope or expense as NCTA suggests. For the Commission therefore to rely on these allegations would require it to embrace half-truths and cherry-picked facts. As it happens, in the case of RWSCC and other communities, the criticisms simply underscore the complexity of the relationships between communities and their cable operators over a period of decades, which once led the Commission to emphasize that "the facts and circumstances of each situation must be assessed on a case-by-case basis under applicable law."[151]

CONCLUSION

The Commission's proposals are inconsistent with the statute, its legislative history, and Commission precedent. The record plainly demonstrates that the Commission lacks the

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[149] *See id.* at Section 7.9.a.

[150] *See id.* at Section 7.9.b.

[151] *Second Report and Order*, MB Docket No. 05-311, 22 F.C.C. Rcd. 19633, ¶ 19 (2007).

authority to implement these ill-considered and unsupported proposals. We urge the Commission to: determine that no additional rules or clarifications are required; the *Montgomery County* decision of the Sixth Circuit should be left in place, as should the long-standing interpretations of the Cable Act that have resulted in rapid deployment of cable to the benefit of the industry and public, alike.

Respectfully submitted,

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On behalf of its clients

December 14, 2018

Exhibit 1
Letter from Rep. James P. McGovern

JAMES P. McGOVERN
2ND DISTRICT, MASSACHUSETTS

COMMITTEE ON RULES

COMMITTEE ON AGRICULTURE

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November 14, 2018

The Honorable Ajit V. Pai
Chairman
455 12th Street, Southwest
Washington, DC, 20544

Re: Implementation of Section 621(a)(1) of the Cable Communications Policy Act of 1984 as Amended by the Cable Television Consumer Protection and Competition Act of 1992" (MB Docket No. 05-311)

Dear Chairman Pai,

I write regarding the Federal Communications Commission's (FCC) docket titled "Implementation of Section 621(a)(1) of the Cable Communications Policy Act of 1984 as Amended by the Cable Television Consumer Protection and Competition Act of 1992" (MB Docket No. 05-311). This proposal would potentially alter, at cable operators' discretion, the terms of the governing agreements between Local Franchising Authorities (LFA) and cable operators. In its current form, this proposal puts at risk critical funding for public, educational, or governmental (PEG) stations as well as broadband connections to schools and other public buildings. My constituents watch PEG channels to monitor local government proceedings, hear the latest news from nearby college campuses and consume other locally produced programming including emergency alerts and directives. This proposal may jeopardize these important functions. I encourage you and your colleagues on the Commission to ensure that any final decision will not threaten the sustainability of PEG stations.

Under the Communications Act, towns and cities across the country are permitted to require as part of cable franchise agreements that cable operators meet demonstrated community needs by setting aside channels for PEG stations. Yet the FCC's current proposal would allow cable operators to assign value to these channels, and then subtract that amount, and the value the operator places on any other in-king contributions, such as free service to schools, from the franchise fees the cable operator owes. If this order is eventually adopted in its current form, cities and towns across the country may soon have to decide between supporting local PEG channels and supporting other critical institutions serving the public good. This is a lose-lose choice for LFAs and the residents they serve.

In an era of media globalization and consolidation, PEG access stations continue to give viewers critical information about their communities and offer an important platform for local voices. They catalyze civic engagement and provide invaluable educational serves. As the Commission proceeds on this issue, I strongly urge you to consider the potential impact on PEG stations.

Thank you,

James P. McGovern

Exhibit 1A
Letter from Reps. Peter Welch and Chellie Pingree

Congress of the United States
Washington, DC 20515

December 6, 2018

The Honorable Ajit V. Pai
Chairman
455 12th Street, Southwest
Washington, DC, 20544

Re: FCC docket "Implementation of Section 621(a)(1) of the Cable Communications Policy Act of 1984 as Amended by the Cable Television Consumer Protection and Competition Act of 1992" (MB Docket No. 05-311)

Dear Chairman Pai:

We write to express our deep concern about the harm that could be inflicted in rural communities by decisions made by the Commission in MB Docket No. 05-311. Specifically, we believe the outcome of this proceeding could jeopardize vital funding for our public, educational, or governmental (PEG) stations as well as the ongoing effort to wire our schools and other public buildings for broadband.

As you know, PEG stations provide Americans with dynamic opportunities to connect with each other and their local governments that are not otherwise available. They provide coverage of local government meetings, news from college campuses, commercial-free and locally produced content, and emergency alerts and directives. We are deeply concerned that the outcome of this proposal could jeopardize these important services.

Under the Communications Act, local governments can require as part of cable franchise agreements that cable operators meet demonstrated community needs by setting aside channels for PEG stations. The proposal in this docket would allow operators to deduct from franchise fees paid to PEG stations the value of these channels as well as the value of any in-kind services they provide, including wiring schools for broadband. The resulting reduction in revenue could threaten the very existence of PEG stations and force local governments to choose between funding the stations or other vital services and institutions. Such an outcome is unacceptable.

As the Commission deliberates in this docket, we urge you to take no action that threatens the viability and sustainability of PEG stations that our constituents depend on especially those in rural communities.

Thank you for your attention to this issue.

Sincerely,

Peter Welch

PETER WELCH
Member of Congress

Chellie Pingree

CHELLIE PINGREE
Member of Congress

Exhibit 1B
Letter from Reps. Tulsi Gabbard and Colleen Hanabusa

Congress of the United States
Washington, DC 20515

December 11, 2018

The Honorable Ajit V. Pai
Chairman
Federal Communications Commission
455 12th Street, SW
Washington, DC 20544

Dear Chairman Pai:

I write to express my strong concerns with the proposed rules under MB Docket No. 05-311, "Implementation of Section 621(a)(1) of the Cable Communications Policy Act of 1984 as Amended by the Cable Television Consumer Protection and Competition Act of 1992". These proposed rules would drastically impact funding for public, education, and governmental (PEG) access organizations, which air community produced content and provide critical information to local communities in Hawaii.

Under the Cable Communications Policy Act, local franchising authorities (LFA) can negotiate franchise agreements with cable operators and require them to serve local communities by reserving channels for local PEG stations. The Federal Communications Commission's (FCC) current proposal, however, would substantially reduce or possibly eliminate franchise fee payments and endanger local PEG providers from operating community access channels and deliver critical information and diverse cultural programs to the many local communities in the Hawai'i islands. As an island state consisting of four different counties, our residents rely on PEG channels to keep abreast of local events and monitor government proceedings including city and county councils, neighborhood boards and state legislature to stay informed. Furthermore, PEG stations provide critical information to communities during natural disasters - including providing emergency updates during the Kilauea volcanic eruption on Hawai'i island.

I urge you to consider the adverse implications this proposal would have on PEG access organizations and their ability to provide meaningful and important content that serve local communities in Hawaii and across the country.

Sincerely,

Tulsi Gabbard

TULSI GABBARD
Member of Congress

COLLEEN HANABUSA
Member of Congress

Exhibit 1C
Letter from Sen. Jeanne Shaheen

JEANNE SHAHEEN
NEW HAMPSHIRE

SUITE SH-506
HART BUILDING
WASHINGTON, DC 20510
(202) 224-2841

United States Senate

WASHINGTON, DC 20510

November 26, 2018

The Honorable Ajit V. Pai
Chairman
Federal Communications Commission
445 12th Street SW
Washington, DC 20554

Dear Chairman Pai,

I am writing in response to recent action taken by the Federal Communications Commission (FCC) to advance a Second Notice of Proposed Rulemaking (MB Docket No. 05-311) regarding the way local franchising authorities (LFA) regulate cable operators. I have heard concerns from my constituents that the proposal, as written, would harm public, educational and government (PEG) stations. Local community media provides valuable information to residents in New Hampshire and across the country by delivering tailored news, community updates and creative programming. I hope that you and your colleagues at the FCC will take these concerns into account and ensure that the interests of local programming are considered when adopting a final rule.

In 1984, Congress passed the Cable Communications Act, which grants LFAs the authority to require that cable operators reserve channel capacity and provide adequate facilities, equipment or support for PEG stations. I am concerned that the FCC's proposal to expand the definition of in-kind services that can count toward franchise fees would result in a significant reduction in financial support for local programming. In the absence of public funding, PEG stations across the country rely on franchise fees to keep their content available and programs running. Local stations have expressed concern that the proposed rule, if adopted, would jeopardize their ability to fulfill their critical mission.

Local communities need PEG stations more than ever. They provide a platform for civic engagement and give viewers critical information about their local communities. Given the importance of these stations, I ask that the FCC closely examine the impact of the proposed changes on local community television and give full consideration to comments submitted for the record addressing these concerns.

Thank you for your attention to this important matter.

Sincerely,

Jeanne Shaheen

Jeanne Shaheen
United States Senator

CC: The Honorable Michael O'Rielly, Commissioner
The Honorable Brendan Carr, Commissioner
The Honorable Jessica Rosenworcel, Commissioner

Exhibit 1D
Letter from Sens. Edward J. Markey, Tammy Baldwin, Margaret Wood Hassan, Benjamin L. Cardin, Jeffrey A. Merkley, Bernard Sanders, Gary C. Peters, Ron Wyden, Patrick Leahy, Richard Blumenthal, and Elizabeth Warren

United States Senate
WASHINGTON, DC 20510

October 29, 2018

The Honorable Ajit V. Pai
Chairman
455 12th Street, Southwest
Washington, DC, 20544

Dear Chairman Pai:

We write regarding the Federal Communications Commission's (FCC) recent vote to proceed with the item, "Implementation of Section 621(a)(1) of the Cable Communications Policy Act of 1984 as Amended by the Cable Television Consumer Protection and Competition Act of 1992" (MB Docket No. 05-311). This proposal would potentially alter, at cable operators' discretion, the terms of the governing agreements between Local Franchising Authorities (LFA) and cable operators. In its current form, the proposal puts at risk critical funding for public, educational, or governmental (PEG) stations as well as broadband connections to schools and other public buildings. Our constituents watch PEG channels to monitor local government proceedings, hear the latest news from nearby college campuses, and consume other locally produced programming including emergency alerts and directives. Your proposal may jeopardize these important functions. We encourage you and your colleagues on the Commission to ensure that any final decision will not threaten the sustainability of PEG stations.

Under the Communications Act, towns and cities across the country are permitted to require as part of cable franchise agreements that cable operators meet demonstrated community needs by setting aside channels for PEG stations. Yet the FCC's current proposal would allow cable operators to assign a value to these channels, and then subtract that amount, and the value the operator places on any other in-kind contributions, such as free service to schools, from the franchise fees the cable operator owes. If this order is eventually adopted in its current form, cities and towns across the country may soon have to decide between supporting local PEG channels and supporting other critical institutions serving the public good. This is a lose-lose choice for LFAs and the residents they serve. We fear this proposal will result in a dire drop in resources for PEG channels throughout the nation.

In an era of media globalization and consolidation, PEG access stations continue to give viewers critical information about their communities and offer an important platform for local voices. They catalyze civic engagement and they provide invaluable educational services. As the Commission proceeds on this issue, we urge you to consider the potential impact on PEG stations.

Thank you for your attention to this issue.

Sincerely,

Edward J. Markey
United States Senator

Tammy Baldwin
United States Senator

Margaret Wood Hassan
United States Senator

Benjamin L. Cardin
United States Senator

Jeffrey A. Merkley
United States Senator

Bernard Sanders
United States Senators

Gary C. Peters
United States Senator

Ron Wyden
United States Senator

Patrick Leahy
United States Senator

Richard Blumenthal
United States Senator

Elizabeth Warren
United States Senator

CC: The Honorable Michael O'Rielly, Commissioner
The Honorable Brendan Carr, Commissioner
The Honorable Jessica Rosenworcel, Commissioner

Exhibit 1E
Letter from Rep. Eliot Engel

RANKING MEMBER
COMMITTEE ON
FOREIGN AFFAIRS

COMMITTEE ON
ENERGY AND COMMERCE

HEALTH SUBCOMMITTEE

ENERGY AND POWER SUBCOMMITTEE

ASSISTANT DEMOCRATIC WHIP

WEBSITE: http://engel.house.gov

FACEBOOK:
http://www.facebook.com/RepEliotEngel

TWITTER: @RepEliotEngel

Congress of the United States
House of Representatives
Eliot L. Engel
16th District, New York

2462 RAYBURN HOUSE OFFICE BUILDING
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DISTRICT OFFICES:

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SUITE 205
MOUNT VERNON, NY 10550
(914) 699–4100

177 DREISER LOOP
ROOM 3
BRONX, NY 10475
(718) 320–2314

December 13, 2018

The Honorable Ajit Pai
Chairman
455 12th Street NW
Washington, DC 20544

Re: MB Docket 05-0311

Dear Chairman Pai:

I write regarding the FCC's September 25 Further Notice of Proposed Rule Making in *Implementation of Section 621(a)(1) of the Cable Communications Policy Act of 1984 as Amended by the Cable Television Consumer Protection and Competition Act of 1992*, MB Docket 05-0311.

I am concerned that the FCC's current proposal could jeopardize critical funding for public, educational, and governmental (PEG) stations. As you know, the PEG provisions of the 1984 Cable Act were intended to enhance local voices, serve local community needs and interests, and strengthen our local democracy. This is exactly what PEG stations in the Bronx and Westchester achieve – they enable my constituents to watch and create uniquely local programming about their communities, and learn more about local events and issues of interest to them.

While the Commission considers this docket, I encourage you to avoid actions that could threaten the sustainability of PEG stations or their ability to provide meaningful and important content to local communities.

Sincerely yours,

Eliot L. Engel

Eliot L. Engel
Member of Congress

Exhibit 1F
Letter from Rep. Mark Pocan

MARK POCAN
2ND DISTRICT, WISCONSIN

COMMITTEE ON APPROPRIATIONS

SENIOR WHIP

10 EAST DOTY STREET, SUITE 405
MADISON, WI 53703
(608) 258-9800

1421 LONGWORTH HOUSE OFFICE BUILDING
WASHINGTON, DC 20515
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POCAN.HOUSE.GOV

UNITED STATES
HOUSE OF REPRESENTATIVES

December 12, 2018

The Honorable Ajit V. Pai
Chairman, Federal Communications Commission
455 12th Street, Southwest
Washington, DC 20544

Dear Chairman Pai:

I write regarding the Federal Communications Commission's Second Further Notice of Proposed Rulemaking, "Implementation of Section 621(a)(1) of the Cable Communications Policy Act of 1984 as Amended by the Cable Television Consumer Protection and Competition Act of 1992" (MB Docket No. 05-311). I am concerned that this rulemaking may have the effect of eliminating Public, Educational and Government (PEG) channels from cable system line-ups. This is the opposite effect intended by the Cable Act passed by Congress.

Wisconsin PEG access channels have been serving the needs of Wisconsin communities for information and coverage of their communities for decades. They have been able to do so because of the federal Cable Act.

The Cable Act enables local franchising authorities to request PEG access channels from cable operators so that a source of local programming can be developed by the community on these multichannel systems otherwise filled with commercial program services that do not recognize or serve local needs. PEG channels meet the purposes of the law. By providing these channels, cable systems are being responsive to local needs and interests and providing diverse sources of information.

Federal law allows cable operators to take back these channels if they are not being used for local programming. 47 USC 531(d). In Wisconsin's state franchise law, there is provision for this.

Unlike some other states, Wisconsin's state franchise law currently does not require a cable operator to assess a PEG fee or provide any other in-kind support. Operators are only required to provide channel capacity and to transmit programs from origination points designated in a locality. Local municipalities must pick up the tab for construction if they move or want a new origination point and they currently pay for all operating and capital expenses for the PEG channels out of the franchise fee. Under your proposed rule, I am concerned that if Wisconsin municipalities also have to pay for the PEG channels themselves, it would force nearly all cities to abandon their channels for lack of funds.

Two of the purposes of the Cable Act are to "assure that cable systems are responsive to the needs and interests of the local community" and to "assure that cable communications provide and are encouraged to provide the widest possible diversity of information sources and services to the public" (47 USC 521(2) and 47 USC 521(4)).

PEG access channels serve both purposes. Under the Cable Act, these channels are intentionally set aside for the use of the public and are treated in the law separately from channels designated for commercial purposes. 47 USC 532 (b)(6)

If this rulemaking allows a cable system to charge a franchising authority for PEG channels as if they were commercial channels, the operator would no longer be acting to respond to local needs; it would be acting on its own behalf. Requiring communities to pay operators for the channel capacity, transmission of programming, or the facilities required to do so would defeat the intention of the law.

I encourage the commission to review the law carefully to ensure that its purposes are not being undermined by the proposed rule and to properly consider the impact of the changes on the varying franchise laws that states have put in place.

PEG access channels serve an important role in providing local information about government, schools, and the community in which subscribers live. The current FCC proposal is more than likely to eliminate these channels in Wisconsin. A rulemaking that implements the Cable Act should not undermine its goals.

Thank you for your attention to this issue.

Sincerely,

Mark Pocan
Member of Congress

Exhibit 2
Declaration of Dr. Kevin E. Cahill, Ph.D

BEFORE THE
FEDERAL COMMUNICATIONS COMMISSION
WASHINGTON, D.C.

STREAMLINING DEPLOYMENT OF SMALL CELL INFRASTRUCTURE BY IMPROVING WIRELESS FACILITIES SITING POLICIES; MOBILITIE, LLC PETITION FOR DECLARATORY RULING	WT Docket No. 16-421

THE ECONOMICS OF LOCAL GOVERNMENT RIGHT OF WAY FEES

DECLARATION OF

KEVIN E. CAHILL, PHD

March 8, 2017

THE ECONOMICS OF LOCAL GOVERNMENT RIGHT OF WAY FEES

I. INTRODUCTION

A. Author

1. My name is Kevin E. Cahill, PhD. I am a project director and senior economist at ECONorthwest, a public policy and economics consulting firm based in Portland, Oregon. I have published on a variety of topics related to applied microeconomics and have presented my research at academic conferences nationwide. I am also experienced in commercial litigation and antitrust matters, labor economics, and public policy and have testified numerous times in deposition and at trial. I earned my BA in mathematics and economics (with honors) from Rutgers College and MA and PhD in economics from Boston College. My professional and academic qualifications are described in my curriculum vitae, which is attached as Appendix A.

B. Purpose

2. My declaration in this matter addresses two topics: 1) the economic criteria that municipalities should apply when considering rights-of-way (ROW) charges, such as those at issue in the Mobilitie, Inc. ("Mobilitie") Petition;[1] and 2) the appropriate measures of economic cost for determining a fair, reasonable, and nondiscriminatory rate.

C. Summary of Opinions

3. Economic principles provide a clear justification for why municipalities should charge market-rate fees to access government-owned property such as rights-of-way.[2] First, market-rate fees ensure the efficient use of ROW—the allocation of this scarce resource that

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[1] Mobilitie, LLC. 2016. Petition for Declaratory Ruling. Before the Federal Communications Commission, In the Matter of Promoting Broadband for All American by Prohibiting Excessive Charges for Access to Public Rights of Way, WT Docket No. 16-421 (November 15).

[2] Mobiltie's petition, as I understand it, addresses two very different charges: regulatory fees, which are designed to capture the cost associated with regulating a particular voluntary activity in which a user engages, and market rents, which capture the costs associated with providing a benefit to a particular entity in return for a use of public properties. From an economics perspective the term "cost" as it pertains to access to ROW, and the "market rate" based on this cost, incorporates both those associated with regulatory fees (e.g., administrative costs and operations and management costs) and those associated with market rents (e.g., opportunity costs and negative externalities). As I note throughout this report, these costs should be fully considered in the price that municipalities charge for access to ROW in order for an efficient allocation of resources to take place. Further, while most of this report is focused on costs related to market rents, it bears emphasizing that, unless fees are set at a level that recovers all costs associated with a regulatory activity, that activity effectively is being subsidized by others and a marketplace benefit is being provided to the entity that is allowed to avoid these costs.

maximizes social welfare. Restricting fees below the market rate creates excess demand for ROW and leads to its overutilization. Second, the market rate should compensate the municipality not only for the administrative costs and operations and maintenance (O&M) costs associated with ROW access, but also for the fixed costs that the municipality incurred to create the ROW, the opportunity costs associated with occupying the ROW (e.g., increased costs in planning for future projects), and any negative externalities associated with placement of a facility in the rights of way (e.g., negative impacts on community aesthetics and property values). These components reflect the true cost to the municipality of granting access to its ROW.

4. Municipalities do not "profit" when users pay the full cost of accessing the ROW, nor is the socially-optimal level and rate of deployment of a new technology achieved when fees are restricted to just cover administrative costs and operations and maintenance costs. Quite the contrary. Such restrictions harm municipalities because resources are misallocated. The fact that some organizations might benefit from these restrictions—namely, by lowering their costs of production and supplying more of their product—does not imply that municipalities and its citizens and businesses also realize a net benefit (they do not).
5. Simply put, the efficient allocation of ROW is achieved when users pay the market price for accessing the ROW.

II. THE ECONOMIC PRINCIPLES OF ACCESSING ROW

6. Economics is the study of the efficient allocation of scarce resources. In an economic sense, a resource is scarce when demand or wants exceed the available supply. Very few resources would *not* be considered scarce—sand in the desert or seawater at the beach are two examples. Each household, city, state, and country has a limited supply of scarce resources (e.g., labor, land, knowledge, energy), and each entity decides how to allocate their resources. Municipalities, too, have scarce resources—land, infrastructure, vehicles, buildings—which they hold in trust for residents, businesses owners, and taxpayers.[3]

[3] Mankiw, G. 2015. *Principles of Microeconomics*. Stamford, CT: Cengage Learning; Samuelson, P. and W. Nordhaus. 2005. *Economics*. New York, NY: McGraw-Hill International Edition; Hall, R. and M. Lieberman. 1998. *Microeconomics: Principles and Applications*. Cincinnati, OH: South-Western College Publishing.

7. Economies allocate scarce resources via markets and prices. In general, producers want to sell their goods at the highest price possible and consumers want to buy their goods at the lowest price possible. A price must be acceptable to both producers *and* consumers for an exchange to occur because each party has the freedom not to participate in the exchange. Economists generally refer to the market-clearing or equilibrium price as one that satisfies two conditions: 1) the price enables producers to cover their costs and 2) the price satisfies consumers' willingness to pay given their preferences. A price below the market-clearing price will result in too many consumers willing to buy and too few producers willing to sell (excess demand) and a price above the market-clearing price will result in too few consumers willing to buy and too many producers willing to sell (excess supply). Price adjustments help ensure a match between supply and demand and an efficient allocation of scarce resources.[4]

A. Charging a fee to access ROW ensures the efficient allocation of a scarce resource

8. A municipal ROW—constrained by location and dimension—is a scarce economic resource. Because it is a scarce resource, charging a fee to access a municipal ROW makes good economic sense and is consistent with the trust responsibilities of municipal officials. Charging a market rate to access a municipal ROW is consistent with the economic principle of using prices to efficiently allocate scarce resources. The closer the charged rate is to the market price the closer the allocation of the ROW is to the efficient outcome.
9. Because a municipal ROW is a scarce resource choosing one use for the ROW means that the municipality foregoes other opportunities to use (or not use) the resource, so long as the user maintains its access to the ROW. The creation of a pedestrian-only mall prevents access to adjoining properties by vehicles, for example, and the placement of a pole may make use of a sidewalk more difficult for a pedestrian. Economists refer to the foregone use as an opportunity cost associated with the resource-allocation decision. Economists consider opportunity costs in resource allocation decisions because resources can be used in

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[4] Mankiw, G. 2015. *Principles of Microeconomics, 7th Edition*. Stamford, CT: Cengage Learning; Samuelson, P. and W. Nordhaus. 2005. *Economics*. New York, NY: McGraw-Hill International Edition.

alternative ways and decisions made today can impact what choices are available in the future.[5]

10. Occupying space in the above- or below-ground portions of the ROW has opportunity costs. Access by others entities, including the locality, may become more expensive or more difficult, or in some cases, may be foreclosed. The three-dimensional space occupied by a given wire obviously cannot be occupied by another. Allowing one wireless provider to use a light pole may foreclose, or limit the use by others, unless the dimensions of the pole are substantially changed. Also, depending on the specifics of the use, the installation, the maintenance, and the replacement of any given facility in the ROW may create problems for and impose costs on the city, other users of the ROW, and on property owners adjacent to the ROW. For these reasons charging a fee to access ROW helps ensure that the ROW will be used in an efficient manner.

B. Below-market pricing results in excess demand

11. As noted above, if a price is set below the market-clearing price then there will be too many consumers willing to buy the product at that price and too few producers willing to sell the product at that price, resulting in an excess demand for the good or service. In the case of ROW, if a municipality is forced to sell access to its ROW at a below-market rate, then users will not fully consider the cost of accessing the ROW and will over utilize it. One form in which this overutilization could manifest itself is that existing ROW could become overcrowded, and be unable to accommodate new, innovative technologies. Another form is that a company like Mobilitie may abandon property for which it does pay rent in order to access property that it hopes to occupy at no charge, or at a heavily regulated charge.
12. Allocating the ROW by first-come, first-serve or on some other non-market price makes little economic sense, especially given the external costs imposed on third parties if a ROW is over-consumed by any user. The same result follows if one artificially limits a community to charging fees without regard to value. Charging a ROW fee that reflects the ROW as a

[5] Mankiw, G. 2015. *Principles of Microeconomics, 7th Edition*. Stamford, CT: Cengage Learning; Samuelson, P. and W. Nordhaus. 2005. *Economics*. New York, NY: McGraw-Hill International Edition; Nicholson, W. 1997. *Intermediate Microeconomics and Its Application*. Oak Brook, IL: The Dryden Press.

valuable asset or resource for which there are important and competing uses easily prevents this.

C. Above-market pricing is disciplined by municipal competition

13. Municipalities compete to attract business and jobs, retirees and their savings, and high-skilled workers. They use a variety of means to do this, such as by offering favorable tax policies and subsidies, providing municipal amenities, and investing in infrastructure.[6] Many cities have economic development departments whose purpose includes attracting businesses away from other jurisdictions to locate in their city and employ their residents. These activities are part of municipal managers' responsibilities to protect and support their community's quality of life and economic health and wellbeing.
14. Telecommunication services are an important component of cities' economic development plans.[7] The extent to which a community has high quality telecommunications services—including, in particular, high-quality broadband Internet access—can affect economic-development prospects and general quality of life. As such, some municipalities may choose to price access to ROW below the market rate in order to obtain these telecommunications services before other communities.
15. Critically, any given municipality is constrained by market forces if it attempts to charge an above-market price.[8] Consider the case in which a municipality attempts to extract excess revenues from interested users of a ROW with a fictitious opportunity cost argument. Some interested users of the ROW will no doubt opt not to use the ROW because of the higher price, leading to excess supply in the municipality's existing ROW. Meanwhile, its competitor municipalities have every incentive to take advantage of this misstep by pricing access to their own ROW such that no excess capacity exists. The result will be an enhanced availability of services in the competing municipalities. The enhanced services can then be

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[6] O'Sullivan, A. 2012. *Urban Economics*. New York, NY: McGraw-Hill Irwin.

[7] Lucky, R. and J. Eisenberg (eds.). 2006. *Renewing U.S. Telecommunications Research*. Committee on Telecommunications Research and Development, National Research Council. ISBN: 0-309-66396-2. http://www.nap.edu/catalog/11711.html; Salt Lake City. No date. *Economic Development – Research: Utilities and Telecommunication*. http://www.slcgov.com/economic-development/utilities-and-telecommunication.

[8] Price is just one factor. Market forces can also limit other outcomes, such as excessive regulation, that might be detrimental to a municipality's citizens and businesses.

touted by the competitor municipalities to lure away individuals and businesses from the municipality with excess capacity in its ROW.

16. Another form of competition exists *within* municipalities—leaders compete for the votes of their constituents. Unlike corporations, municipalities are not profit maximizers; rather, municipalities have an obligation to their citizens to promote economic development. If leaders within a municipality obstruct market forces and fail to establish market prices that invite technological innovation, citizens and businesses will no doubt be unsatisfied with such decisions and seek new leadership in subsequent elections. This threat of being voted out of office serves to discipline leaders within a municipality from demanding above-market prices.
17. Another disciplinary force is the option to use private property instead of a municipality's ROW. The right of way is, as I understand it, not necessarily the only property on which wireless facilities may be placed. While there may be different costs associated with placing facilities on private property (including costs of negotiation), the fact that there are alternatives to using the rights of way limits the pricing power of a municipality.
18. The key takeaway is that market forces—both across and within municipalities and between municipalities and private property owners—discipline those that seek to extract surplus revenues from ROW users. The argument that municipalities should be restricted from setting prices for fear that they will extract excess revenues from interested users is highly flawed because it ignores these disciplinary market forces.

III. QUANTIFYING FAIR, REASONABLE, AND NONDISCRIMINATORY PRICES

19. The previous section describes the economic principals of accessing ROW, and the importance of pricing in such a way that leads to the efficient allocation of this scarce resource. In this section, I describe the various components of such pricing. A key takeaway is that an artificial constraint that restricts municipalities to charging only the current out-of-pocket marginal cost of accessing the ROW will inevitably lead to an inefficient outcome that harms the municipality, its citizens, and its businesses.[9]

[9] For simplicity, I refer to administrative costs and operations and management costs as out-of-pocket marginal costs. Opportunity costs and those associated with negative externalities are technically marginal costs as well, in the sense that they increase incrementally with the introduction of a new user of a ROW.

A. Administrative and operations and maintenance (O&M) costs

20. In its Petition for Declaratory Ruling, Mobilitie states that, "The Commission should first declare that the phrase 'fair and reasonable compensation' means charges that enable a locality to recoup its reasonable costs to review and issue permits and manage its rights of way, and that additional charges are unlawful."[10]

21. Mobilitie is correct insofar as it acknowledges that municipalities should be able to charge for the (full) incremental administrative and operations and maintenance (O&M) costs that a municipality incurs when it grants access to ROW. As I note above, these sorts of costs are typically included in regulatory fees associated with issuing permits for activities inside or outside of the rights of way. These charges can include the cost of personnel time for permitting and maintenance of the ROW, the cost of any modifications to the ROW that are necessary and borne by the municipality, and any costs associated with regulation compliance with rules for use of the rights of way. These charges should also include any necessary engineering reviews, field inspections, utility adjustments, or site restoration tasks. Moreover, it is important to note that some of these costs are not one-time events. In these cases municipalities should be able to recover, over time, any costs related to access of ROW that are ongoing.

22. Economically speaking, however, these regulatory costs do not reflect what an economist would view as the full cost of use of the rights of way. Other components include fixed costs, opportunity costs, and negative externalities. Ignoring these components will lead to a below-market rate, excess demand, and an economically inefficient use of ROW (as well as a subsidy for users, such as Mobilitie).

B. The importance of including fixed costs

23. Mobilitie is incorrect in its assertion that pricing above current out-of-pocket marginal costs implies that municipalities are somehow profiting from the use of ROW. Specifically, Mobilitie states, "The Commission should declare, however, that additional charges that exceed these [marginal] costs are unlawful. Thus, a locality's one-time and recurring charges

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[10] Mobilitie, LLC. 2016. Petition for Declaratory Ruling. Before the Federal Communications Commission, In the Matter of Promoting Broadband for All American by Prohibiting Excessive Charges for Access to Public Rights of Way, WT Docket No. 16-421 (November 15), p. 24.

and fees cannot be set at levels that are designed to raise revenues for the locality, because those charges would allow the locality to profit from its exclusive control of rights of way."[11,12]

24. Pricing above out-of-pocket marginal cost does not imply that municipalities earn "profits." The reason is that municipalities incur fixed costs and opportunity costs, and may experience impacts from negative externalities. First, municipalities have likely incurred at least some of the cost of establishing and maintaining the ROW up until the present time. Myrtle Beach, for example, has expended hundreds of millions to redevelop its beachfront, underground utilities and rebuild its roads.[13] It is economically nonsensical to imply that the municipality should be compelled to give away for free the fixed-cost value of establishing the ROW and maintaining it through the present time simply because the municipality incurred these costs in the past. Far from earning "profits," municipalities would be incurring a very tangible loss if they were not allowed to charge users for their fixed costs—or would be simply transferring costs which ought to be borne by those occupying the rights of way to others, such as taxpayers.

25. Municipalities can and have invested in infrastructure with the expectation that they would recoup at least some portion of such investment spending. For example, jurisdictions in Oregon charge a system development charge (SDC) for new residential and commercial development. The purpose of SDC is to recover the fixed costs of infrastructure capacity that serves new development. As new residential developments come on line they pay their portion of the fixed costs for infrastructure capacity needed to serve the new development.[14] Forcing municipalities to give away these assets for free makes little economic sense and could inhibit municipalities' investments in infrastructure going forward.

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[11] Mobilitie, LLC. 2016. Petition for Declaratory Ruling. Before the Federal Communications Commission, In the Matter of Promoting Broadband for All American by Prohibiting Excessive Charges for Access to Public Rights of Way, WT Docket No. 16-421 (November 15), p. 24.

[12] I note that the "exclusive control" of the rights of way is something of a misnomer. Property owners have exclusive control of their property but my understanding is that such exclusive control is rarely in and of itself viewed as a justification for regulating rates for access.

[13] MyrtleBeachOnline. 2016. "Myrtle Beach metro area again one of the fastest-growing in the country." March 24. http://www.myrtlebeachonline.com/news/local/article67886402.html.

[14] Galardi Consulting, Dr. A. Nelson, and Beery, Elsner and Hammond. 2007. *Promoting Vibrant Communities with System Development Charges*. Metro. July; Leung, M. 2015. *System Development Charges*. Portland Water Bureau. May 27.

26. Importantly, allowing municipalities to charge for their fixed costs does not imply that all municipalities will do so. The ROW is an asset to the municipality and some municipalities might decide to waive their fixed costs to compete with other municipalities to attract certain types of investment. This flexibility is a key feature of how municipalities compete, to the benefit of its citizens and businesses. This dimension of competition would be stifled if municipalities are not allowed to recoup their fixed costs.

C. The importance of including opportunity costs

27. As noted above, a municipality's ROW is a scarce resource in an economic sense. The potential for restricted availability and fewer options in the future is a cost to the municipality for granting access to the ROW today. As such, municipalities must be able to charge for their opportunity cost to achieve an efficient allocation of its ROW. Further, allowing a locality to recover its opportunity costs ensures that users pay the full cost associated with the use of the facility—or ensures that the municipality makes a conscious decision to subsidize certain behaviors. For example, a municipality might have a vested interest in encouraging the deployment of technologies to underserved areas and, to encourage such deployment, the municipality might set a discounted price, or even a zero price, for accessing its ROW in particular areas. Such decisions can be optimal depending on the objective function or strategy of the municipality. As with fixed costs, restricting municipalities from including opportunity costs, either in full or in part, constrains competition across municipalities and inevitably leads to inefficient outcomes.

D. The importance of taking negative externalities into account

28. Decision makers within municipalities must also consider any negative impacts that use of ROW might impose on the community. Such negative impacts are referred to in the economics literature as externalities—an impact, either positive or negative, to an outside party. In the case of access to ROW, a telecommunications company's cell tower might impose a negative externality in the community due to its unsightliness. Municipalities have attempted to mitigate such negative impacts on the community by requiring users to address the negative externalities they impose, for example, by requiring providers to make cell

towers look like trees.[15] In other cases, access to certain locations in or outside of the rights of way (for example, for locations in front of historic structures) may be subject to strict scrutiny.

29. Quantifying the impact of negative externalities on a given community can be complicated, and the challenges in doing so illustrate why it is important to let each municipality decide how to weigh the trade-offs associated with such negative impacts. Some communities might value the impact of a negative externality more so than others, just as some communities might value access to the latest telecommunications technology more than others. Competitive pricing allows municipalities to achieve an allocation of resources that takes these preferences into account. For example, if a locality charges a fee for use that is higher for those who place large facilities in the rights of way, and less for those who do not, the locality will encourage deployment of smaller facilities.

30. A key takeaway is that communities differ in how they view the impacts of negative externalities. Limiting municipalities' ability to set the prices they can charge (as well as limiting authority to mitigate impacts through land use regulation), therefore, will lead to a situation in which communities' preferences toward negative externalities are not taken into account, inevitably resulting in an economically inefficient outcome.

E. The importance of economic factors in assessing nondiscriminatory fees

31. In an economic sense, a fee is nondiscriminatory if entities pay similar fees for using a ROW in similar ways and under similar circumstances. Uses differ, and not all telecommunications providers use the ROW in the same way. For example, a wireline company may have hundreds or thousands of miles of fiber in a ROW. A wireless company, in contrast, may place only a few facilities in the ROW, but with more substantial negative externalities. One could reasonably distinguish among these types of providers for the purpose of arriving at compensation for access to the ROW.

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[15] Chicklas, D. 2014. "City code required cell phone tower to be disguised as tree." *Fox 17 West Michigan*. July 28. http://fox17online.com/2014/07/28/city-code-required-cell-phone-tower-to-be-disguised-as-tree/; Hecht, P. 2015. "Dressed up as trees, cellular towers stir depate." *The Sacramento Bee*. Dec. 5, http://www.sacbee.com/news/investigations/the-public-eye/article48213030.html.

32. In addition, economic conditions change over time. All else equal, providers that enter the market at different points in time face different economic conditions. In a competitive market, such providers would likely face different costs for the resources they use. Likewise, it would not necessarily be either discriminatory or non-neutral for the details of the ROW access charges between each of such providers and a city to differ.
33. It follows that there may be many different ways to capture fair market value for property and other resources used. For example, it is common in pricing to include a gross revenues based component. This is a common measure where a ROW grant gives someone a right to place facilities throughout the right of way (cable and telecommunications franchises, for example) but is also common in private markets (shopping centers, for example). Alternatively, an entity can price per site, price based on some measure of area (linear footage, square footage, or cubic footage), or price based on provision of non-monetary benefits that reduce costs to both parties (e.g., installation of excess conduit that reduces the need for future road cuts). Different pricing models may fit some policy goals better than others or some business plans better than others. Just as competition leads to marked-based prices and an efficient allocation of scarce resources, competition also leads to an optimal form in which payments are made.
34. Finally, other factors can affect ROW pricing in ways that are non-discriminatory in nature, such as opportunity costs and externalities. Regarding opportunity costs, it would be non-discriminatory from an economic perspective to charge higher ROW fees in highly congested portions of the ROW because congestion in ROW can limit future access for municipal services. Likewise, telecommunications companies may inflict negative externalities on communities by installing unsightly telecommunications equipment in historical districts or in neighborhoods with strict visual standards (e.g., signage limitations and requirements, limited or specified paint colors, period or culturally aesthetic architecture building codes). ROW fees that take these consequences into consideration would not be considered discriminatory in an economic sense.

IV. FACTORS SPECIFIC TO SMALL CELL DEPLOYMENT

35. Mobilitie notes that access to ROW for the purposes of 5G technology differs from prior cellular technology uses. The technology requires more densely distributed equipment and,

therefore, access to many more ROW points. Mobilitie then argues that these technical requirements somehow imply that the economics of access to ROW should be different. In fact, the economic principles of access to ROW hold no matter what the technology, including 5G and taking Mobilitie's technical arguments at face value.

36. One of the major differences between the anticipated roll out of small cell and DAS networks from current wireless technology is the number of antenna attachments and deployments that municipalities will process. Mobilitie's Petition for Declaratory Ruling, states that 200,000 cell towers currently exist in the United States. These towers were not all installed in one year, rather they accumulated over time. In contrast, it is anticipated that one million new small cell and DAS antenna could be deployed in the next five years.[16] On average, municipalities would have to process ROW antenna requests at an annual rate equivalent to all cell towers currently in operation, each year, for the next five years.

37. Mobilitie claims that, due to the large number of expected access requests, a more uniform system of gaining access to ROW might be required. It is beyond the scope of this report to consider the costs associated with imposing a "uniform" permitting scheme on localities across the nation, except to note that it would likely be quite significant, potentially involving changes in ordinances, software systems, forms and the like. But a critical piece of information left out of Mobilitie's argument is that municipalities have every incentive to work with telecommunications companies and advance 5G technology to the extent that such technology offers value to its constituents. If the value is as alluring as Mobilitie claims it to be, municipalities have every incentive to facilitate its adoption within the community. No declaratory ruling or mandated uniformity would be required.

38. Likewise, market-based pricing mechanisms are consistent with and not in conflict with rapid deployment. As a society, we do not want the most rapid deployment imaginable; we want the speed of deployment that is consistent with the most efficient use of available resources. This rate of deployment leads to intelligent choices among types of properties that may be used to deploy wireless facilities. The methodology Mobilitie proposes will predictably lead to inefficient deployment at substantial social cost.

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[16] Mobilitie, LLC. 2016. *Petition for Declaratory Ruling*. Before the Federal Communications Commission, In the Matter of Promoting Broadband for All Americans by Prohibiting Excessive Charges for Access to Public Rights of Way. Washington, DC. November 15.

39. Moreover, as a basic economic principle, firms will first deploy in the areas that are most profitable. The areas that are most profitable under a system with market-based prices will, when ROW are underpriced, likely remain among the most profitable areas (albeit *more* profitable due to lower costs). The systematic underpricing of access to ROW is unlikely to lead to increased deployment in underserved areas over existing profitable ones.

V. CONCLUSION

40. An efficient, market-based price to access ROW compensates a municipality for its administrative costs and operations and management costs, its fixed costs of establishing and developing the ROW, its opportunity cost of granting access to the user, and any negative externalities from the user. Restricting fees below the market rate, as proposed by Mobilitie, creates excess demand for the ROW, leading to an overutilization and suboptimal allocation of ROW.
41. Concerns about municipalities extracting rents from potential users of ROW are unwarranted because competitive forces within and across municipalities, and between municipalities and private property owners, discipline such behavior. Municipalities that attempt to extract higher-than-market rates will simply be undercut by other municipalities that do not, or sidestepped by private property owners, and risk falling behind technologically. Leaders who advocate for extracting higher-than-market rates will be forced to explain to voters why their municipality is falling behind technologically, and risk losing their positions. The result is that municipalities and their leaders cannot sustain above-market prices.
42. The most rapid rate of deployment imaginable for 5G technology is not the socially-optimal outcome; rather what is socially optimal is the speed of deployment that is consistent with the most efficient use of available resources. The efficient allocation of ROW is achieved when users pay the full cost of accessing the ROW. The closer the fee is to the market price the closer the allocation of ROW access is to the social optimum.

I declare under penalty of perjury that the foregoing is true and correct. Executed on March 8, 2017.

Kevin E. Cahill, PhD
Project Director
ECONorthwest

VI. APPENDIX A: Curriculum Vitae

CURRICULUM VITAE

KEVIN E. CAHILL

Education

Ph.D. Economics, Boston College, Chestnut Hill, MA, 2000
M.A. Economics, Boston College, Chestnut Hill, MA, 1997
B.A. Mathematics and Economics (with honors), Rutgers College, New Brunswick, NJ, 1993

Professional Experience

2012 – present	ECONorthwest: Project Director / Senior Economist
2005 – present	Center on Aging and Work at Boston College: Research Economist
2005 – 2010	Analysis Group, Inc.: Associate (2005 – 2008); Manager (2009 – 2010)
2004 – 2005	Tinari Economics Group: Economist and Expert Witness
2003	Center for Retirement Research at Boston College: Associate Director for Research
2000 – 2002	Abt Associates, Inc.: Associate

Academic Papers and Publications

Cahill, Kevin E., Michael D. Giandrea, and Joseph F. Quinn. *submitted*. "Is Bridge Job Activity Overstated?" *Monthly Labor Review*.

Quinn, Joseph F. and Kevin E. Cahill. *submitted*. "The Relative Effectiveness of the Minimum Wage and the Earned Income Tax Credit as Anti-Poverty Tools." *Religions*.

Cahill, Kevin E., Michael D. Giandrea, and Joseph F. Quinn. 2016 "To What Extent is Gradual Retirement a Product of Financial Necessity?" *Work, Aging and Retirement*. doi: 10.1093/worker/waw027.

Cahill, Kevin E., Andrew Dyke, John Tapogna, and Michael D. Giandrea. 2016. "The Impact of Oregon's Pension Legacy Costs on New Teacher Turnover and Quality." U.S. Bureau of Labor Statistics Working Paper, 491 (August).

Principi, Andrea, Sara Santini, Marco Socci, Deborah Smeaton, Kevin E. Cahill, Sandra Vegeris, and Helen Barnes. 2016. "Retirement Plans and Active Aging: Perspectives in Three Countries." *Ageing & Society*; doi: 10.1017/So144686x16000866.

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Quinn, Joseph F., and Kevin E. Cahill. 2016. "The New World of Retirement Income Security in America." *American Psychologist*, 71(4), 321-333; doi: 10.1037/a0040276.

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Pitt-Catsouphes, Marcie, Jacquelyn B. James, Kevin E. Cahill, and Tay K. McNamara. 2015. "Relationships between Team Performance and Managers Who Are Innovators and Early Adopters of Flexible Work Options." *Journal of Change Management*; doi: 10.1080/14697017.2015.1035665.

Cahill, Kevin E., Deborah Smeaton, Andrea Principi, Marco Socci, & Sara Santini. 2015. "Does the Option of Continued Work Later in Life Result in a More Optimistic View of Retirement?" Papers and Proceedings of the 68th Annual Scientific Meeting of the Gerontological Society of America (November).

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Cahill, Kevin E., Michael D. Giandrea, and Joseph F. Quinn. 2014. "How Might the Affordable Care Act Impact Retirement Transitions?" Papers and Proceedings of the NAFE Sessions at the 89th Annual Conference of the Western Economics Association International (June).

Cahill, Kevin E., Michael D. Giandrea, and Joseph F. Quinn. 2014. "The Impact of Hours Flexibility on Career Employment, Bridge Jobs, and the Timing of Retirement." U.S. Bureau of Labor Statistics Working Paper, 472 (March).

Cahill, Kevin E., Michael D. Giandrea, and Joseph F. Quinn. 2013. "Are Gender Differences Emerging in the Retirement Patterns of the Early Boomers?" U.S. Bureau of Labor Statistics Working Paper, 468 (September).

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Pitt-Catsouphes, Marcie, Jacquelyn B. James, Stephen Sweet, Kevin E. Cahill, David Snow, Kim DeAngelis, Suzanne Lawler, Maureen O'Keeffe, and Danielle Hartmann. 2013. Schedule optimization at the local level. In R. Disselkamp (Ed.), *Workforce asset management book of knowledge*. Hoboken, NJ: Wiley.

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Cahill, Kevin E., Michael D. Giandrea, and Joseph F. Quinn. 2012. "The Relationship between Work Decisions and Location Later in Life." U.S. Bureau of Labor Statistics Working Paper, 458 (October).

Cahill, Kevin E., Michael D. Giandrea, and Joseph F. Quinn. 2012. "Older Workers and Short-term Jobs: Employment Patterns and Determinants." *Monthly Labor Review*, 135(5), 19-32 (May).

Quinn, Joseph F., Kevin E. Cahill, and Michael D. Giandrea. 2011. "Early Retirement: The Dawn of a New Era?" TIAA-CREF Institute *Policy Brief* (July).

Cahill, Kevin E., Michael D. Giandrea, and Joseph F. Quinn. 2011. "Reentering the Labor Force after Retirement." *Monthly Labor Review*, 134(6), 34-42 (June).

Cahill, Kevin E., Michael D. Giandrea, and Joseph F. Quinn. 2011. “How Does Occupational Status Impact Bridge Job Prevalence?” U.S. Bureau of Labor Statistics Working Paper, 447 (July).

Cahill, Kevin E., Michael D. Giandrea, and Joseph F. Quinn. 2010. “Employment Patterns and Determinants among Older Individuals with a History of Short-Duration Jobs.” U.S. Bureau of Labor Statistics Working Paper, 440 (August).

Cahill, Kevin E., Michael D. Giandrea, and Joseph F. Quinn. 2010. “The Role of Re-entry in the Retirement Process.” U.S. Bureau of Labor Statistics Working Paper, 439 (June).

Jaff, Michael R., Kevin E. Cahill, Andrew P. Yu, Howard G. Birnbaum, and Luella M. Engelhart. 2010. “Clinical Outcomes and Medical Care Costs among Medicare Beneficiaries Receiving Therapy for Peripheral Arterial Disease.” *Annals of Vascular Surgery*, 24(5), 577-587 (July).

Cahill, Kevin E., Michael D. Giandrea, and Melissa Brown. 2010. “Stepping Stones and Bridge Jobs: Determinants and Outcomes.” Papers and Proceedings of the NAFE Sessions at the AEA/ASSA 2010 Annual Meetings.

Giandrea, Michael D., Kevin E. Cahill, and Joseph F. Quinn. 2009. “Bridge Jobs: A Comparison across Cohorts.” *Research on Aging*, 31(5), 549-576.

Duh, Mei Sheng, Kevin E. Cahill, Pierre Emmanuel Paradis, Pierre Y. Cremieux, and Paul E. Greenberg. 2009. “The Economic Implications of Generic Substitution of Antiepileptic Drugs: A Review of Recent Evidence.” *Expert Opinion on Pharmacotherapy*, 10(14), 2317-2328.

Wu, Eric Q., Pankaj A. Patel, Reema R. Mody, Andrew P. Yu, Kevin E. Cahill, Jackson Tang, and Eswar Krishnan. 2009. “Frequency, Risk, and Cost of Gout-related Episodes Among the Elderly: Does Serum Uric Acid Level Matter?” *The Journal of Rheumatology*, 36(5), 1032-1040.

Giandrea, Michael D., Kevin E. Cahill, and Joseph F. Quinn. 2008. “Self Employment as a Step in the Retirement Process.” Sloan Center on Aging & Work *Issue Brief*, No. 15 (September).

Cahill, Kevin E., Michael D. Giandrea, and Joseph F. Quinn. 2008. “A Micro-Level Analysis of Recent Increases in Labor Force Participation among Older Workers.” Center for Retirement Research at Boston College Working Paper, 8 (February).

Giandrea, Michael D., Kevin E. Cahill, and Joseph F. Quinn. 2008. “Self Employment Transitions among Older Workers with Career Jobs.” U.S. Bureau of Labor Statistics Working Paper, 418 (May).

Lee, Lauren J., Andrew P. Yu, Kevin E. Cahill, Alan K. Oglesby, Jackson Tang, Ying Qiu, and Howard G. Birnbaum. 2008. “Direct and Indirect Costs among Employees with Diabetic Retinopathy in the United States,” *Current Medical Research and Opinion*, 24(5), 1549-1559.

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Cahill, Kevin E., and Alicia H. Munnell. 2004. "The Impact of Raising the Earliest Eligibility Age on Social Security-Dependent Americans." Research funded by the Russell Sage Foundation (unpublished manuscript).

Munnell, Alicia H., Kevin E. Cahill, Andrew D. Eschtruth, and Steven A. Sass. 2004. "The Graying of Massachusetts: Aging, the New Rules of Retirement, and the Changing Workforce." The Massachusetts Institute for a New Commonwealth (MassINC).

Munnell, Alicia H., Kevin B. Meme, Natalia A. Jivan, and Kevin E. Cahill. 2004. "Should We Raise Social Security's Earliest Eligibility Age?" Center for Retirement Research *Issue in Brief*, No. 18 (June).

Cahill, Kevin E., and Sheila Campbell. 2004. "Basic Investment Theory Explained." Center for Retirement Research *Just the Facts*, No. 9 (January).

Cahill, Kevin E., and Mauricio Soto. 2003. "How Do Cash Balance Plans Affect the Pension Landscape?" Center for Retirement Research *Issue in Brief*, No. 14 (December).

Munnell, Alicia H., Kevin E. Cahill, and Natalia A. Jivan. 2003. "How Has the Shift to 401(k)s Affected the Retirement Age?" Center for Retirement Research *Issue in Brief*, No. 13 (September).

Marshall, Nancy L., Cindy L. Creps, Nancy R. Burstein, Kevin E. Cahill, Wendy W. Robeson, Sue Y. Wang, Nancy Keefe, Jennifer Schimmenti, and Frederic B. Glantz. 2003. "Massachusetts Family Child Care Today: A Report on the Findings from the Massachusetts Cost and Quality Study." Wellesley Centers for Women, Wellesley, MA.

"401(k) Plans and Retirement Saving: Lessons for Personal Accounts." 2002. Summary document of a presentation by William G. Gale and James M. Poterba prepared for the Social Security Administration (November).

Beecroft, Erik, Kevin E. Cahill and Barbara D. Goodson, 2002. "The Impacts of Welfare Reform on Children: The Indiana Welfare Reform Evaluation." Abt Associates Inc. (December).

Burstein, Nancy, Jean I. Layzer, and Kevin E. Cahill. 2001. "National Study of Child Care for Low-Income Families: Patterns of Child Care Use Among Low-Income Families." Abt Associates Inc. (August).

Wrobel, Marian V., and Kevin E. Cahill. 2001. "An Evaluation of the Choosing Health Program." Abt Associates Inc. (April).

Cahill, Kevin E., 2000. "Heterogeneity in the Retirement Process: Patterns and Determinants of Labor Force Withdrawal among Individuals with Low-Wage and Short-Duration Jobs." Boston College Doctoral Dissertation.

Quinn, Joseph F., Richard V. Burkhauser, Kevin E. Cahill, and Robert Weathers. 1998. "Microeconomic Analysis of the Retirement Decision: United States." The OECD Economics Department Working Paper No. 203, Paris.

Professional Activities, Honors and Awards

Member, Founding Editorial Board of *Work, Aging and Retirement*, 2014 – present.

Member, Editorial Board of *Research on Aging*, 2016 – present.

Member, Editorial Board of *Journal of Aging & Social Policy*, 2016 – present.

At-Large Vice President, Board of Directors, National Association of Forensic Economics, 2013 – 2016.

2011 Lawrence R. Klein Award for best *Monthly Labor Review* article by joint BLS and non-BLS authors.

Ad hoc referee, 2000 – 2016, *The Gerontologist, Journal of Gerontology: Social Sciences, Journal of Applied Gerontology, Industrial and Labor Relations Review, Journal of Human Resources, Work, Aging and Retirement, Demography, Population Research and Policy Review, Journal of Population Economics, Research on Aging, Applied Health Economics and Health Policy, Sociology Quarterly, Journal of Aging and Social Policy, Ageing & Society, Atlantic Economic Journal, Social Problems, Australian Journal of Social Issues, Asian Social Science, The Journal of Forensic Economics, AARP, Alfred P. Sloan Foundation, Oxford University Press*

American Economics Association, member, 2002 – present.

Gerontological Society of America, member, 2012 – present, investment committee, 2015 – present.

Western Economics Association, member, 2004 – 2008, 2012 – present.

National Association of Forensic Economics (NAFE), member, 2004 – present;

NAFE, organizer of ASSA conference sessions, 2015, 2016 (with Larry Spizman), 2017 (with Scott Gilbert)

Eastern Economics Association, member, 2005 – 2010, 2014

Allied Social Sciences Associations Annual Meeting, Conference Book Cover, 2017, 2015, 2014, 2013, 2012.

Salmon River Art Guild, Regional Art Show, Other Media: First Place (2014, 2012); Second Place (2016, 2011); Third Place (2016, 2011); Honorable Mention (2016, 2014).

Reviewer of grant proposals, Sandell Grant Program, 2002 – 2003.

Doctoral Fellowship, Social Security Administration, Center for Retirement Research, 1999.

Teaching Excellence Award, Boston College Graduate School of Arts and Sciences, 1998.

Michael Mann Summer Dissertation Award, Boston College Department of Economics, 1997.

Graduate Student Fellowship, Boston College Department of Economics, 1995 – 1998.

Henry Rutgers Scholar, Rutgers College, Department of Economics, 1993.

Presentations and Conferences Attended

"Notable Economic Trends in Idaho and the Pacific Northwest." Invited speaker at the Northwest Credit Union Association's Governmental Affairs Conference, Boise, ID, January 26, 2017.

"What Determines Gradual Retirement? Differences in the Path to Retirement between Low- and High-Educated Older Workers." Discussant at the 2017 Annual Meeting of the Allied Social Science Associations, Chicago, IL, January 8, 2017.

"The Impact of Oregon's Pension Legacy Costs on New Teacher Turnover and Quality" Presentation at the 2017 Annual Meeting of the Allied Social Science Associations, Chicago, IL, January 7, 2017.

"Pension Generosity in Oregon and Its Impact on Mid-Career Teacher Attrition and Older Teachers' Retirement Decisions." Presentation at the 2016 Fall Research Conference of the Association for Public Policy Analysis and Management (APPAM), Washington, DC, November 6, 2016.

"How Do You Study the Impact of Immigrant Inclusion? Considerations for Quantitative Research." Presentation at the Welcoming Economies Global Network Conference, Philadelphia, PA, October 20, 2016.

"Economic Damages in Employment Cases." Presentation for the Multnomah Bar Association, Portland, OR, September 20, 2016, and the Oregon Trial Lawyers Association, Portland, OR, October 5, 2016.

"Pension Generosity in Oregon and its Impact on the K12 Workforce." Presentation at the 91st Annual Conference of the Western Economic Association International, Portland, OR, July 1, 2016.

"Measure of Damages for Employer-Paid Health Insurance Denied While Working." Discussant at the 91st Annual Conference of the Western Economic Association International, Portland, OR, July 1, 2016.

"Is Bridge Job Activity Overstated?" Presentation at the 2016 Annual Meeting of the Allied Social Science Associations, San Francisco, CA, January 4, 2016.

"Does the Option of Continued Work Later in Life Result in a More Optimistic View of Retirement?" Presentation at the 68th Annual Scientific Meeting of the Gerontological Society of America (GSA), Orlando, FL, November 22, 2015.

"To What Extent is Gradual Retirement a Product of Financial Necessity?" Presentation at the 68th Annual Scientific Meeting of the Gerontological Society of America (GSA), Orlando, FL, November 21, 2015.

"The Impact of a Time & Place Intervention on Economic Outcomes at a Large Healthcare Organization." Presentation at the 68th Annual Scientific Meeting of the Gerontological Society of America (GSA) Pre-Conference Workshop: Change in the Meaning and Experience of Work Later in Life, Orlando, FL, November 18, 2015.

"The Economic Dynamics and Fiscal Impacts of an Aging Society." Invited panelist at the 10th Annual Conference of the Oregon Oral Health Coalition, Oral Health in the Age of Aging: Perspectives on Epigenetics, Gerontology, and Chronic Diseases, Portland, OR, October 2, 2015.

"Pathways to Retirement in the United States: An Evolving Process." Invited speaker at the Center for Senior Policy's Conference on Extending Working Life: The American Experience, Oslo, Norway, September 15, 2015.

"Midyear Commercial Real Estate Economic Forum." Invited panelist at a forum sponsored by TitleOne Corporation, Boise, ID, June 17, 2015.

"Boomers and the Future of Oregon's Economy." Speaker at a jointly-sponsored ECONorthwest–AARP event on leveraging Oregon's 50-plus population, Portland, OR, March 17, 2015.

"The Impact of a Randomly-Assigned Time & Place Management Initiative on Work and Retirement Expectations." Presentation at the 2015 Annual Meeting of the Allied Social Science Associations, Boston, MA, January 4, 2015.

"A Balanced Look at Self-Employment Transitions Later in Life." Presentation at the 67th Annual Scientific Meeting of the Gerontological Society of America (GSA), Policy Series: Self-Employment and Entrepreneurship: The Aging Workforce's 'Encore'?, Washington, DC, November 8, 2014.

"How Might the Affordable Care Act Impact Retirement Transitions?" Presentation at the 89th Annual Conference of the Western Economic Association International, Denver, CO, June 28, 2014.

"Hours Flexibility Preferences and Work/Retirement Decisions." Presentation at the Work and Family Researchers Network (WFRN) 2014 Conference, New York, NY, June 19, 2014.

"Bridge Jobs and the New Era of Retirement." Invited speaker at the Sloan Foundation's Workshop on Measuring, Modeling, and Modifying Late in Life Workplace Dynamics, New York, NY, June 5, 2014.

"The Impact of Hours Flexibility on Retirement Transitions." Presentation at the Pacific Northwest Regional Economics Conference (PNREC) 2014, Portland, OR, May 8, 2014.

"Job Transitions among Today's Older Americans: Challenges and Opportunities." Keynote speaker at AARP's Finding Work at 50+ Event, Beaverton, OR, April 22, 2014.

"Retirement Communities – the Golden Age of Real Estate." Invited panelist at a forum sponsored by the Idaho Business Review, Boise, ID, April 1, 2014.

"Transitions into Self-Employment at Older Ages: 1992 to 2012." Presentation at the 40th Annual Conference of the Eastern Economics Association, Boston, MA, March 8, 2014.

"What Forensic Economists Need to Know about Societal Aging." Presentation at the NAFE Sessions of the 40th Annual Conference of the Eastern Economics Association, Boston, MA, March 8, 2014.

"Preparing for the Aging Boom: Best Practices for Employers." Invited panelist at a forum sponsored by the Vision Action Network and the Washington County Chamber of Commerce Partnership, Portland, OR, January 29, 2014.

"The New Era of Retirement." Presentation at the Osher Lifelong Learning Institute at Boise State University, Boise, ID, January 9, 2014.

"The Impact of Hours Flexibility on Career Employment, Bridge Jobs, and the Timing of Retirement." Presentation at the 2014 Annual Meeting of the Allied Social Science Associations, Philadelphia, PA, January 4, 2014.

"Schedule Matches and Work-life Fit among Older Healthcare Workers." Presentation at the 66th Annual Scientific Meeting of the Gerontological Society of America (GSA), New Orleans, LA, November 21, 2013.

"Self-Employment Transitions among Older Americans." Invited speaker at the AARP Public Policy Institute Roundtable on Crafting a Workforce Development System that Better Meets the Needs of Older Jobseekers and Workers, Washington, DC, November 7, 2013.

"The Uncertainty of Planning for Retirement." Invited guest on Chicago Public Radio, WBEZ's "Morning Shift," Chicago, IL, November 4, 2013.

"The Role of Gender in the Retirement Patterns of Older Americans." Invited speaker at the U.S. Department of Labor's Older Women Workers Roundtable, Washington, DC, September 27, 2013.

"Are Gender Differences Emerging in the Retirement Patterns of the Early Boomers?" Presentation at the 88th Annual Conference of the Western Economic Association International, Seattle, WA, June 30, 2013.

"Getting Older, Getting Hired." Invited guest on WGBH's "Boston Public Radio," Boston, MA, January 22, 2013.

"Employment Experiences of Older Workers in the Context of Shifts in the National Economy." Presentation at the 65th Annual Scientific Meeting of the Gerontological Society of America (GSA), San Diego, CA, November 17, 2012.

"Retirement Patterns and the Macroeconomy, 1992 to 2010: The Prevalence and Determinants of Bridge Jobs, Phased Retirement, and Reentry among Different Cohorts of Older Americans." Presentation at the 2012 Fall Research Conference of the Association for Public Policy Analysis and Management (APPAM), Baltimore, MD, November 9, 2012.

"New Evidence on Self-Employment Transitions among Older Americans with Career Jobs." Presentation at the 87th Annual Conference of the Western Economic Association International, San Francisco, CA, June 30, 2012.

"Work after Retirement: Lessons for Employers and Policymakers from the United States." Invited speaker at Eurofound's "Income from Work after Retirement" Expert Workshop, European Foundation for the Improvement of Living and Work Conditions, Brussels, Belgium, June 15, 2012.

"The Relationship between Work Decisions and Location Later in Life." Presentation at the 2012 Annual Meeting of the Allied Social Science Associations, Chicago, IL, January 7, 2012.

"Building Your Bridge to Retirement'?" Invited guest on AARP's "Inside E Street" for Public Television, Washington, DC, December 7, 2011.

"How Does Occupational Status Impact Bridge Job Prevalence." Presentation at the 2011 Annual Meeting of the Allied Social Science Associations, Denver, CO, January 8, 2011.

"Stepping Stones and Bridge Jobs: Determinants and Outcomes." Presentation at the 2010 Annual Meeting of the Allied Social Science Associations, Atlanta, GA, January 4, 2010.

"Adapting U.S. Retirement Behavior." Discussant at the 2009 Annual Meeting of the Eastern Economic Association, New York, NY, February 27, 2009.

"Retirement Patterns and Determinants among Individuals with a History of Short-Duration Jobs." Presentation at the 2009 Annual Meeting of the Allied Social Science Associations, San Francisco, CA, January 4, 2009.

"The Role of Bridge Jobs in the Retirement Process." Presentation at The Ann Richards Invitational Roundtable on Gender and the Media, Older Workers: Benefits and Obstacles for Women's and Men's Continued Employment, Brandeis University, Waltham, MA, October 24, 2008.

"The Role of Re-entry in the Retirement Process." Presentation at the 2008 Annual Meeting of the Allied Social Science Associations, New Orleans, LA, January 4, 2008.

"A Micro-level Analysis of Recent Increases in Labor Force Participation among Older Workers." Presentation at the Korea Labor Institute Conference on Panel Data, Seoul, Korea, October 25, 2007.

"Bridge Jobs and Retiree Well-being." Presentation at the 2007 Annual Meeting of the Western Economic Association, Seattle, WA, July 2, 2007.

"Self Employment Transitions among Older Workers with Career Jobs," Presentation at the 2007 Annual Meeting of the Eastern Economic Association, New York, NY, February 24, 2007.

"A Micro-level Analysis of Recent Increases in Labor Force Participation among Older Workers." Presentation at the 2006 Annual Meeting of the Western Economic Association, San Diego, CA, July 2, 2006.

“Retirement Patterns and Bridge Jobs among the HRS War Babies.” Presentation at the 2005 Annual Meeting of the Western Economic Association, San Francisco, CA, July 7, 2005.

SEAK Annual National Expert Witness Conference, Hyannis, MA, June 16-17, 2005.

“The Social Security Debate: Why Should I Care about Reforms?” Invited guest for a panel discussion on Social Security Personal Accounts, Drew University Economics Department, Madison, NJ, April 12, 2005.

“The Role of the Economist in Assessing Damages for Defendants.” Presentation at Liberty Mutual Group, Marlton, NJ, March 18, 2005.

“Was the 9/11 Victim Compensation Fund a Success? A Forensic Economist’s View.” Presentation at the 2005 Annual Meeting of the Eastern Economic Association, New York, NY, March 5, 2005.

“Recent Evidence on Retirement Patterns and Bridge Jobs.” Presentation at the 2005 Annual Meeting of the Eastern Economic Association, New York, NY, March 4, 2005.

“A Retrospective Examination of the 9/11 Victim Compensation Fund Awards: Calculated vs. Actual Economic Loss Awards.” Presentation at the 2005 Annual Meeting of the Allied Social Science Associations: Expanding the Frontiers of Economics, Philadelphia, PA, January 8, 2005.

“Are Traditional Retirements a Thing of the Past?” Presentation at the U.S. Bureau of Labor Statistics, Washington, DC, December 16, 2004.

“How Well Prepared Are Massachusetts Families for Retirement?” Presentation at the New England Study Group, Federal Reserve Bank of Boston, Boston, MA, October 12, 2004.

Annual Meeting of the Allied Social Science Associations, San Diego, CA, January 3-5, 2004.

“Securing Retirement Income for Tomorrow’s Retirees.” Session Chair for the Sandell Grant Program Presentations at the Fifth Annual Conference of the Social Security Retirement Research Consortium, Washington, DC, May 15-16, 2003.

“Retirees Back at Work.” Invited guest for “On Point,” *National Public Radio*, Boston, MA, March 12, 2003.

“The Changing Retirement Income Landscape.” Presentation at the Ethics and Aging Seminar Series at Boston College, Chestnut Hill, MA, February 3, 2003.

“Social Security Reform: The Relationship between Today’s Program and Tomorrow’s.” Discussant at the 55th Annual Scientific Meeting of the Gerontological Society of America, Boston, MA, November 26th, 2002.

“Patterns of Child Care Use among Low-Income Families.” Presentation at the National Association for Welfare Research and Statistics (NAWRS) 42nd Annual Workshop: Research, Reauthorization, and Beyond, Albuquerque, NM, August 25-28, 2002.

Annual Meeting of the Allied Social Science Associations, Boston, MA, January 7-9, 2000.

“The Outlook for Retirement Income.” Second Annual Conference of the Social Security Retirement Research Consortium, Washington, DC, May 17-18, 2000.

“New Developments in Retirement Research.” First Annual Joint Conference of the Social Security Retirement Research Consortium, Washington, DC, May 20-21, 1999.

"AHEAD (Asset and Health Dynamics Among the Oldest Old) Summer Workshop." Survey Research Center, The University of Michigan, Ann Arbor, MI, Summer 1997.

"GSOEP-PSID Summer Workshop." Center for Policy Research, Syracuse University, Syracuse, NY, Summer 1997.

Conference Posters

Cahill KE, James JB, Pitt-Catsouphes M, "How Do Older Healthcare Workers' Preferences for Flexibility Affect Work and Retirement Decisions?" Gerontological Society of America (GSA) 66th Annual Scientific Meeting, November 20-24, 2013.

Wu E, Cahill KE, Bieri C, Ben-Hamadi R, Yu AP, Erder MH, "Comparison of Hospitalization Use and Health Care Costs of Elderly Major Depressive Disorder (MDD) Patients Treated with Escitalopram, Generic SSRIs, and SNRIs," International Society for Pharmacoeconomics and Outcomes Research (ISPOR) 14th Annual International Meeting, May 16-20, 2009.

Cahill, KE, Giandrea MD, Quinn JF, "Retirement Behavior among Individuals with Erratic Work Histories," Gerontological Society of America (GSA) 61st Annual Scientific Meeting, November 21-25, 2008.

Jaff MR, Engelhart L, Rosen E, Yu AP, Cahill KE, "Clinical and Economic Outcomes among U.S. Medicare Beneficiaries with Lower Extremity Peripheral Arterial Disease (PAD)," International Symposium on Endovascular Therapy (ISET), January 20-24, 2008.

Giandrea MD, Cahill KE, Quinn JF, "Self Employment Transitions among Older Workers with Career Jobs," Gerontological Society of America (GSA) 60th Annual Scientific Meeting, November 16-20, 2007.

Lee LJ, Yu AP, Cahill KE, Birnbaum HG, Oglesby AK, Tang J, Qiu Y, "Direct and Indirect Costs among Employees with Diabetic Retinopathy," American Diabetes Association (ADA) 67th Scientific Sessions, June 22-26, 2007.

Yu AP, Cahill KE, Birnbaum HG, Lee LJ, Oglesby AK, Tang J, Qiu, Y, "Direct and Indirect Costs Associated with Photocoagulation and Vitrectomy among Employees with Diabetic Retinopathy," International Society for Pharmacoeconomics and Outcomes Research (ISPOR) 12th International Meeting, May 19-23, 2007.

Wu E, Patel P, Krishnan E, Yu AP, Cahill KE, Tang J, Mody R, "Healthcare Cost of Gout in an Elderly Population: A Claims Database Analysis," American Geriatrics Society (AGS) 2007 Annual Scientific Meeting, May 2-6, 2007.

Wu E, Mody R, Krishnan E, Yu AP, Cahill KE, Tang J, Patel P, "Tighter Control of Serum Uric Acid in Gout is Associated with Lower Morbidity and Health Care Costs," American College of Rheumatology (ACR) Annual Scientific Meeting, November 10-15, 2006.

Expert Reports, Trial and Deposition Declaration

Michael Davis and Julie Davis, et al. vs. Cedar Grove Composting, Inc., loss of use and enjoyment of property proceeding, Superior Court for Snohomish County, State of Washington, opinion as to defendant's positive economic impacts and achievement of stated public policy goals, declaration taken in deposition, February 13, 2017; Catherine Avila and Dionicilo Avila, et al. vs. Cedar Grove Composting, Inc., loss of use and enjoyment of property proceeding, Superior Court for King County, State of Washington, opinion as to defendant's positive economic impacts and achievement of stated public policy goals, declaration taken in deposition, February 13, 2017.

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Environmental Impact Statement on the Keystone XL Pipeline Project, declaration taken in Pierre, SD in front of the PUC, August 3, 2015.

Multnomah County vs. Conway Construction Company, et al., bridge construction damages proceeding, Multnomah County Circuit Court, Oregon, opinion as to plaintiff's economic damages due to the installation of defective bridge decking, declaration taken in trial, February 25, 2015.

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State of Oregon, ex rel. John Kroger, Attorney General vs. AU Optronics Corporation, et al., TFT-LCD antitrust litigation, United States District Court, Northern District of California at San Francisco, opinion as to the apportionment of damages across purchaser and product groups, declaration taken in deposition, August 11, 2014.

David Sawyer and Joan Sawyer vs. Metropolitan Life Insurance Company, et al., personal injury proceeding, Middlesex County Superior Court, Massachusetts, opinion as to plaintiff's lost earning capacity, declaration taken in deposition, April 16, 2013.

Expert Economic Assessment of the USAF Socioeconomic Impact Analysis for Boise AGS, report submitted to the United States Air Force, March 3, 2012.

Council on American Islamic Relations – New Jersey, Inc., et al. vs. Bergman Real Estate Group, et al., business damages proceeding, Essex County Superior Court, New Jersey, opinion as to plaintiff's lost fundraising revenue, declaration taken in deposition, September 21, 2005.

Garfinkel vs. Morristown Obstetrics and Gynecology Associates, et al., Hon. Stephen F. Smith, Morris County Superior Court, New Jersey, opinion as to defendants' lost profits, declaration taken in trial, June 23, 2005.

Edwards vs. City of New York, wrongful termination proceeding, Hon. Fernando Tapia, New York City Civil Court, Bronx County, New York, opinion as to the loss of earnings, fringe benefits, and pension benefits, declaration taken in trial, June 1, 2005.

Allen vs. Euromarket Designs, Inc., wrongful termination proceeding, Hon. Stephen J. Burnstein, Essex County Superior Court, New Jersey, opinion as to the loss of earnings, declaration taken in trial, April 20, 2005.

Ali vs. Cervelli, personal injury proceeding, Hon. Robert P. Contillo, Bergen County Superior Court, New Jersey, opinion as to the loss of income from the family business and the loss of household services, declaration taken in trial, April 13-14, 2005.

Peskin vs. AT&T Corporation, wrongful termination proceeding, Somerset County Superior Court, New Jersey, opinion as to the loss of earnings, declaration taken in deposition, April 8, 2005.

Garfinkel vs. Morristown Obstetrics and Gynecology Associates, et al., wrongful termination proceeding, Morris County Superior Court, New Jersey, opinion as to defendants' lost profits, declaration taken in deposition, March 16, 2005.

Packard vs. The Bessemer Group, wrongful termination proceeding, Middlesex County Superior Court, New Jersey, opinion as to the loss of earnings and pension benefits, declaration taken in deposition, February 17, 2005.

Durant vs. The Associates, business damages proceeding, Hon. Nicholas J. Stroumtsos, Jr., Middlesex County Superior Court, New Jersey, opinion as to the loss of incremental profit, declaration taken in trial, December 15, 2004.

Durant vs. The Associates, business damages proceeding, Middlesex County Superior Court, New Jersey, opinion as to the loss of incremental profit, declaration taken in deposition, November 22, 2004.

Luisi vs. Luisi, divorce proceeding, Hon. Rachel A. Adams, Richmond County Supreme Court, New York, opinion as to the value of enhanced earning capacity, declaration taken in trial, November 11, 2004.

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Cahill, Kevin E., and Casey Keck. 2017. "What Are the Economic, Social, and Civic Impacts of a Welcoming Framework?" Working Paper. Research funded by Welcoming America.

Cahill, Kevin E. 2016. "It's Baaaack: The Flawed Argument That Older Workers Should Step Aside." *Huffington Post* (September).

Cahill, Kevin E., Andrew Dyke, and John Tapogna. 2016. "Pension Generosity in Oregon and Its Impact on Midcareer Teacher Attrition and Older Teachers' K12 Workforce Exit Decisions." CEDR Policy Brief 2016-6. University of Washington, Seattle, WA.

Cahill, Kevin E., Andrew Dyke, and John Tapogna. 2016. "The Impact of Oregon's Pension Legacy Costs on New Teacher Turnover and Quality." CEDR Policy Brief 2016-5. University of Washington, Seattle, WA.

Cahill, Kevin E. 2016. "Shouldn't We Lead by Example if We Want Americans to Save More for Retirement?" *Huffington Post* (May).

Cahill, Kevin E., Andrew Dyke, and John Tapogna. 2016. "Does Idaho Come Up Short on College and Career Readiness? Absolutely." *Idaho Statesman* (March).

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Cahill, Kevin E. 2014. "A New Perspective on Older Workers." *Idaho Business Review* (June).

Tapogna, John, Kevin E. Cahill, and Andrew Dyke. 2014. "Comparing Spending and Academic Results is Imperative." *Idaho Education News* (June).

Cahill, Kevin E., John Tapogna, and Jay Bloom. 2014. "Societal Aging Need Not Mean Slower Growth for Oregon." *The Oregonian* (May).

Cahill, Kevin E., Michael D. Giandrea, and Gene J. Kovacs. 2014. "Self-Employment: The Answer for an Aging Workforce and a Sluggish Economy?" Sloan Center on Aging & Work, AGE*nda* (March).

Cahill, Kevin E., and Jacquelyn B. James. 2013. "A Cost/Benefit View of Occasional Flexibility." Sloan Center on Aging & Work, AGE*nda* (December).

Cahill, Kevin E. and Jacquelyn B. James. 2013. "Small Request, Big Impact: The Importance of Occasional Flexibility in a Healthcare Setting." Sloan Center on Aging & Work at Boston College *Issue Brief* (November).

Cahill, Kevin E., John Tapogna, Rod Gramer, and Diana Lachiondo. 2013. "To What Extent Will Demographic Changes Help Idaho Reach Its Educational Attainment Goals for 2020?" ECONorthwest *Issue Brief* (October).

Cahill, Kevin E., and Gene J. Kovacs. 2013. "Santa Claus, the Easter Bunny, and Traditional Retirement." Sloan Center on Aging & Work, AGE*nda* (May).

Cahill, Kevin E., Jacquelyn James, Marcie Pitt-Catsouphes, and Maureen O'Keeffe. 2012. "Late-Career Flexibility: Beyond Phased Retirement." *HR Pulse Magazine* (December).

Cahill, Kevin E. and Paul Thoma. 2012. "What Does the Aging of Idaho Mean for its Citizens, Employers, and Policymakers?" ECONorthwest *Issue Brief* (September).

Cahill, Kevin E., and Gene J. Kovacs. 2012. "Should You Be Counting on the Social Security Trust Fund?" Sloan Center on Aging & Work, AGE*nda* (September).

Cahill, Kevin E., John Tapogna, Paul Thoma, and Bryce Ward. 2012. "Is Boise Over- or Underperforming Economically?" ECONorthwest *Issue Brief* (August).

Cahill, Kevin E. 2012. "What Ichiro's Departure Says About Loyalty and the Employer-Employee Relationship." *The Seattle Times* (July).

Cahill, Kevin E. 2012. "Thinking about Phased Retirement?" Sloan Center on Aging & Work, AGE*nda* (June).

Sweet, Stephen and Kevin E. Cahill. 2012. "How the Health Care Sector Can Prepare for the Aging of Its Workforce?" Sloan Center on Aging & Work, AGE*nda* (April).

Cahill, Kevin E. and Stephen Sweet. 2012. "Should Older Americans Feel Gloomy About Their Job Prospects?" Sloan Center on Aging & Work, AGE*nda* (March).

Cahill, Kevin E. 2012. "F-35 Opponent Questions Air Force Report." *The Boise Guardian* (February).

Cahill, Kevin E. 2012. "Five Reasons Why Flexible Work Options Are Good Business in a Bad Economy." Sloan Center on Aging & Work, AGE*nda* (February).

Cahill, Kevin E. 2011. "Should Older Workers Step Aside?" *Huffington Post Blog* (featured article) (August) and Sloan Center on Aging & Work, AGE*nda* (December).

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Exhibit 2A
Reply Declaration of Dr. Kevin E. Cahill, Ph.D

BEFORE THE
FEDERAL COMMUNICATIONS COMMISSION
WASHINGTON, D.C.

STREAMLINING DEPLOYMENT OF SMALL CELL INFRASTRUCTURE BY IMPROVING WIRELESS FACILITIES SITING POLICIES; MOBILITIE, LLC PETITION FOR DECLARATORY RULING	WT Docket No. 16-421

REPLY DECLARATION OF KEVIN E. CAHILL, PHD

REGARDING THE ACCENTURE REPORT AND

THE ECONOMICS OF LOCAL GOVERNMENT RIGHT OF WAY FEES

April 7, 2017

REPLY DECLARATION OF KEVIN E. CAHILL, PHD

REGARDING THE ACCENTURE REPORT AND

THE ECONOMICS OF LOCAL GOVERNMENT RIGHT OF WAY FEES

I. INTRODUCTION

A. Author

1. My name is Kevin E. Cahill, PhD. I am a project director, senior economist, and litigation practice area lead at ECONorthwest, a public policy and economics consulting firm based in Portland, Oregon. I have published on a variety of topics related to applied microeconomics and have presented my research at academic conferences nationwide. I am also experienced in commercial litigation and antitrust matters, labor economics, and public policy and have testified numerous times in deposition and at trial. I earned my BA in mathematics and economics (with honors) from Rutgers College and MA and PhD in economics from Boston College. My professional and academic qualifications are described in my curriculum vitae, which is attached as Appendix A to my March 8, 2017 Declaration in this matter.[1]

B. Purpose

2. This Reply Declaration addresses a recent report by Accenture that was submitted during the Comment phase in this matter.[2] Specifically, I address four topics in the Accenture Report that pertain to my Declaration dated March 8, 2017. These four topics are: 1) access to public rights of way; 2) local permitting and regulations; 3) fee structures; and 4) subsidizing 5G technology.

C. Summary of Opinions

3. The efficient allocation of rights of way (ROW) comes about when municipalities can charge fair market rates for ROW access. As I explained in my Declaration dated March 8, 2017, the fair market rate should "compensate the municipality not only for the administrative costs and operations and maintenance (O&M) costs associated with ROW access, but also for the fixed costs that the municipality incurred to create the ROW, the opportunity costs associated with occupying the ROW ... and any negative externalities associated with placement of a

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[1] Declaration of Kevin E. Cahill, PhD, *The Economics of Local Government Right of Way Fees*, Before the Federal Communications Commission. In the Matter of Streamlining Deployment of Small Cell Infrastructure by Improving Wireless Facilities Siting Policies; Mobilitie, LLC Petition for Declaratory Ruling, WT Docket No. 16-421 (March 8, 2017) ("Cahill Declaration").

[2] Amine, M. A., Mathias, K., and Dyer, T. 2017. *Smart Cities: How 5G Can Help Municipalities Become Vibrant Smart Cities*. Report commissioned by CTIA. Toronto, Canada: Accenture ("Accenture Report"). https://newsroom.accenture.com/content/1101/files/Accenture_5G-Municipalities-Become-Smart-Cities.pdf.

facility in the rights of way …"[3, 4] Such pricing does not inefficiently limit the economic benefits of 5G technology described in the Accenture Report. Quite the contrary. Such pricing leads to the efficient allocation of ROW, a scarce resource, and can also be expected to lead to the most efficient deployment of 5G, which may or may not be within the rights of way.

4. Regarding the benefits of 5G, the authors of the Accenture Report estimate that, "This next generation of wireless technology is expected to create 3 million new jobs and boost annual GDP by $500 billion, driven by a projected $275 billion investment from telecom operators."[5] Competition within and between municipalities, and between municipalities and private land owners, implies that municipalities have little incentive to impede the rollout of 5G technology and every incentive to work with telecom operators to bring such sizable benefits to their communities.

5. Regarding local permitting and regulations, the Accenture Report largely ignores the costs to municipalities for processing and managing the volume of anticipated industry requests for 5G ROW access. My understanding is that a common model is to charge a fee that covers the costs that a municipality incurs in conducting the inspections and proceedings required to allow entry, fees that cover ongoing costs associated with inspection or expansion of facilities, and a rent that reflects, in effect, the value of the property occupied. All of these costs, including the fixed and variable costs associated with managing requests to access ROW, need to be taken into account by a municipality to achieve the efficient allocation of the ROW. Indeed, one way to ensure that municipalities have adequate resources to respond to the increase in ROW requests is by charging market rates. As noted above, this rate should include the full incremental administrative and operations and management (O&M) costs, in addition to considering fixed costs, opportunity costs, and negative externalities.

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[3] Cahill Declaration, ¶ 3.

[4] Throughout this report I use the term "market rate" in an economic sense. As I noted in my Declaration dated March 8, 2017, "[f]rom an economics perspective the term 'cost' as it pertains to access to ROW, and the 'market rate' based on this cost, incorporates both those associated with regulatory fees (e.g., administrative costs and operations and management costs) and those associated with market rents (e.g., opportunity costs and negative externalities)" (Cahill Declaration, fn. 2).

[5] Accenture Report, p. 3.

6. Regarding fee structures, the Accenture Report implies that fees structures could be a barrier to the deployment of 5G technology and make implementation financially unfeasible.[6] This statement simply does not pass any reasonable smell test. It seems implausible that the economic benefits of 5G technology are expected to increase GDP *annually* by one half *trillion* dollars but that a subsidy is required due to existing fee structures. More realistically, competitive forces will reveal the optimal fee structure for ROW access in addition to the optimal level.
7. Regarding subsidies, allowing telecom operators to access ROW at below-market rates constitutes an implicit subsidy that will result in the overutilization of ROW for the purposes of deploying 5G technology. Such overutilization would likely inhibit the rollout of subsequent generations of technology and thereby discourage the most efficient deployment of 5G in an intertemporal sense. As I understand it, based on the report by Andrew Afflerbach, no 5G standards have been adopted yet, and it is far from clear how 5G will be deployed, and with what form factors.[7] Essentially, by placing a thumb on the scale in the form of a subsidy, the FCC could be encouraging deployment with high negative externalities (e.g., deployments that reduce the value of adjoining properties or affect third party use of assets) because municipalities will be unable to charge rates that discourage such deployments.

II. COMMENTS ON ACCESS TO PUBLIC RIGHTS OF WAY

8. The Accenture Report notes the importance of access to public rights of way to the rollout of 5G technology. The report states, "Without Public Rights of Way, the deployment of next-generation small-cell technology will continue to suffer—and communities will not be able to enjoy its benefits."[8] I note at the outset of this report that, as a technical matter, my understanding is that there is evidence before the Commission, submitted in the report by

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[6] Accenture Report, p. 13.

[7] Report and Declaration of Andrew Afflerbach for the Smart Communities Siting Coalition, Before the Federal Communications Commission. In the Matter of Streamlining Deployment of Small Cell Infrastructure by Improving Wireless Facilities Siting Policies; Mobilite, LLC Petition for Declaratory Ruling. WT Docket No. 16-421 (March 8, 2017) ("Afflerbach Declaration"), p. 15.

[8] Accenture Report, p. 13.

Andrew Afflerbach, that calls this assertion into question on several basic levels.[9] For the purposes of this report, I will take this statement as true. As I explain below, even if this statement is true, it does not necessitate limiting fees that can be charged by localities (whether for permits or for rents) to administrative costs and operations and maintenance (O&M) costs.

9. As I documented in my Declaration dated March 8, 2017, a municipal ROW is a scarce economic resource.[10] As such, a municipality's choice to allocate ROW for one purpose means that, so long as the user has access to the ROW, the municipality foregoes other opportunities to use the resource.[11] The efficient allocation of this scarce resource depends on the price municipalities charge users to access the ROW. A price set too low (i.e., below the market-clearing price) will result in excess demand and an overutilization of the resource. A price set too high will lead to insufficient demand and an underutilization of the resource. Moreover, one would expect that different uses of ROW would have different impacts on surrounding properties, a point made in the report before the Commission on potential impacts on property values.[12] Underpricing right of way encourages deployments with negative externalities, because municipalities cannot charge to discourage such uses, and further discourages investment on behalf of potential users that may result in more innovative deployments.

10. Accenture estimates that, "This next generation of wireless technology is expected to create 3 million new jobs and boost annual GDP by $500 billion, driven by a projected $275 billion investment from telecom operators."[13] Municipalities have every incentive to work with telecom operators to bring such sizable benefits to their communities and have little or no incentive to impede the rollout of 5G technology. As I noted in my Declaration dated March

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[9] Afflerbach Declaration, p. 16.

[10] Cahill Declaration, ¶ 8.

[11] This statement does not imply that the ROW cannot be shared. My point is that the use of ROW forecloses the use of that space by others. For example, the placement of a structure, such as a pole, in the right of way favors the pole owner and those who wish to place facilities on the pole. The presence of the pole, however, can block other uses of the ROW (e.g., the placement of a public trash can at that spot that helps keep streets clean).

[12] Report and Declaration of David E. Burgoyne for the Smart Communities Siting Coalition, Before the Federal Communications Commission. In the Matter of Streamlining Deployment of Small Cell Infrastructure by Improving Wireless Facilities Siting Policies; Mobilitie, LLC Petition for Declaratory Ruling. WT Docket No. 16-421 (March 7, 2017) ("Burgoyne Declaration"), pp. 1-2; 5-9.

[13] Accenture Report, p. 3.

8, 2017, competition both within and across municipalities and between municipalities and private property owners disciplines municipalities from overcharging for access to ROW.[14]

11. The determination of the fair and reasonable market price for accessing public ROW will depend on the circumstances of each municipality, including the preferences of its citizens. To be sure, some municipalities may choose to price below the market rate, an implicit subsidy, to attract telecommunications companies, just as localities sometimes subsidize new business entry into a community. Indeed, an economist would expect differences in pricing to encourage the efficient use of the rights of way, and such differences in pricing can manifest itself in many different ways (e.g., public-private financing, service subsidies). In contrast, a situation in which every community is required to charge less than market value for the deployment of a particular technology is equivalent to requiring all municipalities to offer a subsidy, regardless of whether such a subsidy is justified. Such forced subsidies (when not the outcome of a well-vetted public policy objective) will inevitably lead to an inefficient outcome with respect to the use of ROW and possibly also with respect to the use of private property.
12. In short, charging the market rate to access public ROWs will help ensure efficient allocation of the ROW resource.[15] It will also help ensure that municipalities have sufficient labor and related resources to process the expected dramatic increase in 5G ROW requests, discussed in the following section.

III. COMMENTS ON LOCAL PERMITTING AND REGULATIONS

13. The Accenture Report notes that deploying 5G technology throughout municipal ROW will "pose a tremendous challenge to both telecom operators and municipalities."[16] The remainder of this section in the Accenture Report, however, describes problems exclusively associated with telecom operators, such as slow turnaround and approval times, numerous tribunals for approval, and discretionary reviews of installations. Further, very few specifics are provided in this section, and it is not clear whether the authors of the Accenture Report have any

[14] Cahill Declaration, ¶¶ 13-18.

[15] I use the term "market rate" in an economic sense. See footnote 4 for more information.

[16] Accenture Report, p. 13.

significant basis for their assertions or whether the authors have conducted any independent effort to assess delays.

14. Setting aside these verification issues, the Accenture Report ignores the difficulties that *municipalities* will face processing and managing the volume of industry requests for 5G ROW access. The Accenture Report notes that ROW requests could be up to 100 times greater than requests for current technology.[17] Increasing such requests by a factor of 100 will place unprecedented demands on municipal staff, resources, and budgets, as shown in the Smart Communities filing, and the filing by other municipalities in this docket.[18]
15. The Accenture Report implies that 5G technology will be deployed coincidently with existing towers: "Existing towers will provide coverage for miles, while small cells will support the increased needs of a Smart City."[19] Such an approach burdens municipalities with managing existing antenna sites in the ROW, along with the rollout of 5G ROW requests, and thereby increases costs on municipalities beyond just the demands for 5G ROW access.
16. As I describe in my Declaration dated March 8, 2017, one way of ensuring that municipalities have adequate resources to respond to the increase in ROW requests is by charging market rates to access municipal ROWs.[20] In addition to taking into account fixed costs, opportunity costs, and negative externalities, the rate should also take into account the full incremental administrative and operations and management (O&M) costs that come with granting access to ROW.[21] Restricting what municipalities can charge would result in an implicit subsidy to telecom operators at the expense of municipalities and lead to an inefficient allocation of ROW.
17. A related point is that the Accenture Report, in commenting about "slow" turnaround and approval times and partial approvals, is silent about instances in which these outcomes are due to telecom operators' actions. Incomplete applications for ROW access, for example, and the increased burden this imposes on municipalities, can be a significant driver of turnaround

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[17] Accenture Report, p. 13.

[18] Afflerbach Declaration, pp. 15; 20-21.

[19] Accenture Report, p. 12.

[20] Again, I use the term "market rate" in an economic sense. See footnote 4 for more information.

[21] Cahill Declaration, ¶¶ 21-22.

times for processing applications.[22] Yet such explanations are left out of the Accenture Report.

18. Finally, the Accenture Reports provides no documentation or citations to support the purported challenges that telecom operators face when having to comply with municipal permitting and regulation requirements. The Accenture Report includes statements such as, "In many cities…," and "Some cities …," without attribution or support.[23] As such, their description of alleged problems amounts to unsubstantiated anecdotes.

IV. COMMENTS ON FEE STRUCTURES

19. The Accenture Report implies that fees structures could be a barrier to the deployment of 5G technology and make implementation unfeasible. "In many instances, fees imposed on small cells are comparable to those imposed on macro cells without regard to their differences. The application fees and other acquisition fees (including rental) of macrocell sites are applied to each of the 50 to 100 small cells required resulting in costs being multiplied and deployment becoming financially unfeasible."[24]
20. As the reports prepared by the Smart Communities have shown, however, placement in the rights of way can involve significantly different and more complex issues than, say, placement of a tower on farmland.[25] While the latter undoubtedly requires important analyses, deployment of small cell technology requires coordination with other utilities, consideration of Americans with Disabilities Act (ADA) impacts, potential traffic interference/sight line, and other issues that may not arise at all for a larger facility. Likewise, the "small cell" may not be physically "small" at all as the term refers to its covering a small area. It is far from obvious that because one cell covers a large area, and another serves a small area, that issues for the placement of one are less costly to consider than the other.[26]

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[22] Afflerbach Declaration, pp. 20-21.

[23] Accenture Report, p. 13.

[24] Accenture Report, p. 13.

[25] Afflerbach Declaration, pp. 2-8; Report and Declaration of Steven M. Puuri for the Smart Communities Siting Coalition, Before the Federal Communications Commission. In the Matter of Streamlining Deployment of Small Cell Infrastructure by Improving Wireless Facilities Siting Policies; Mobilitie, LLC Petition for Declaratory Ruling. WT Docket No. 16-421 (March 7, 2017) ("Puuri Declaration"), pp. 1-5.

[26] Afflerbach Declaration, pp. 2-11.

21. Setting aside the issue that no supporting documentation is provided for the Accenture Report's claim regarding "small cell" fees, and that their claim is in fact contradicted by evidence before the Commission,[27] this statement indicates that 5G technology might not be financially feasible if telecom operators are required to pay the market rate. In effect, the industry needs municipalities to subsidize 5G technology for deployment to be financially feasible. This statement simply does not pass any reasonable smell test. It seems implausible that the economic benefits of 5G technology are expected to increase GDP *annually* by one half *trillion* dollars but that a subsidy is required due to existing fee structures. If the technology is as beneficial as Accenture claims, one would expect that the industry would be able to charge for services in a manner that allows it to pay fair market value for the resources it will use. If the industry will be unable to pay fair market value for its inputs, then that implies the economic benefits touted in the Accenture Report are overstated. Generally speaking, either the economic benefits are very large or the industry needs to be subsidized.
22. Another reason that arguments about fee structures do not make sense is that municipalities have every incentive to implement an efficient fee structure. As I noted in my Declaration dated March 8, 2017, competition not only reveals the market rate for ROW access, but competition also reveals the optimal form in which payments are made.[28] If the benefits of 5G are as large as Accenture claims them to be, municipalities have every incentive to work with telecom operators with respect to the level and structure of fees to facilitate the adoption of the new technology in an economically efficient manner.
23. Finally, given the competitive environment in which municipalities reside, one economically meaningful approach to assessing the validity of the industry's arguments regarding 5G ROW requests is to consider the municipalities' perspective. Does a municipality incur fewer costs to process and manage ROW requests for 5G versus existing technology? Are economies of scale possible when a municipality processes a 100-fold increase in ROW requests from multiple providers in a short timeframe? If cost savings can be obtained through a different pricing structure, a municipality will adopt that structure lest its competitors do so and gain a strategic advantage in the process.

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[27] Afflerbach Declaration, pp. 2-8; 15.

[28] Cahill Declaration, ¶ 33.

V. COMMENTS ON SUBSIDIZING 5G TECHNOLOGY

24. Just because an activity has an economic benefit, however large, does not imply that the activity is worthwhile or that a subsidy is warranted. The benefits of any activity need to be weighed against the costs in order to achieve an economically efficient outcome. The Accenture Report focuses almost exclusively on the telecom industry's interests, and ignores the municipalities' perspective and the costs municipalities will incur. The fact that 5G deployment will support jobs, for example, is no reason to require municipalities to charge below-market ROW fees to promote the rollout of 5G technology.[29] Such an action would simply transfer costs from the industry—and from their customers, the consumers of 5G technology—to municipalities. Critically, if the economic impact analysis conducted by Accenture is correct, we would expect to see these economic benefits even if the market value for ROW access is charged.
25. Pricing below the market rate amounts to an implicit subsidy for 5G technology. Of course, in many instances, it is in societal interest to subsidize an industry. As noted above, for example, and as stated in my initial Declaration, some municipalities might offer discounts for ROW access in order to promote an earlier adoption of 5G technology in their communities. Further, some broad-based policy in which subsidies are applied to all communities could be socially optimal should the Commission decide that deployment of 5G technology serves some broader social interest or that some market failure exists in the industry, such as a free-rider problem. Crucially, the Accenture Report provides no justification for such a society-wide subsidy for 5G technology, yet the industry's advocacy for a below-market rate is, at its core, a request for such a subsidy. As noted throughout this report, forcing municipalities to offer a subsidy via below-market pricing for access to its ROW will inevitably result in an overutilization of ROW and an inefficient deployment of 5G technology.
26. For example, one consequence of subsidizing 5G deployment through below-market rates is that overutilization of ROW for the purposes of deploying 5G technology could very well inhibit the rollout of subsequent generations of technology. This places regulators in the

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[29] The Accenture Report states, "Communities of all sizes are likely to see jobs created. Small to medium-sized cities with a population of 30,000 to 100,000 could see 300 to 1000 jobs created. In larger cities like Chicago, we could see as many as 90,000 jobs created" (p. 4).

position of picking "winning" technologies, from a chronological standpoint, rather than having market forces dictate the efficient outcome. Another consequence is that below-market pricing could inhibit innovation with respect to how ROW are used, such as a recent innovative collaborative between Philips and PG&E with respect to how a two-way communicating meter was attached to a smart pole.[30]

VI. CONCLUSION

27. The efficient allocation of ROW access comes about when municipalities can charge a market rate for public ROW access. This rate should compensate the municipality for its administrative costs and O&M costs, its fixed costs that were incurred to create the ROW, its opportunity costs of providing access to the ROW, and any negative externalities from the user. This market rate will not inhibit the efficient rollout of 5G technology, nor will it inefficiently limit the economic benefits of 5G technology described in the Accenture Report.

[30] Philips. 2015. *Philips and City of San Jose Partner to Deploy Philips SmartPoles Pilot Project Combining Energy Efficient LED Street Lighting with Wireless Broadband Technology from Ericsson*. Somerset, NJ: Philips. http://www.philips.com/a-w/about/news/archive/standard/news/press/2015/20151208-Philips-and-City-of-San-Jose-partner-to-deploy-Philips-SmartPoles-pilot-project.html.

I declare under penalty of perjury that the foregoing is true and correct. Executed on April 7, 2017.

Kevin E. Cahill, PhD
Project Director
ECONorthwest

Exhibit 3
Report of Alan Pearce, Ph.D

NOTE: Excerpt excludes attachments

UNITED STATES DISTRICT COURT

DISTRICT OF OREGON

TIME WARNER TELECOM OF OREGON, LLC, an Oregon Limited Liability Company, and **QWEST COMMUNICATIONS CORPORATION,** a Delaware Corporation,

PLAINTIFFS,

v.

THE CITY OF PORTLAND, an Oregon Municipal Corporation,

DEFENDANT.

CV 04-1393-MO

EXPERT REPORT OF ALAN PEARCE, Ph.D.
Information Age Economics, Inc.
202-466-2654

A. INTRODUCTION

1. I am President of Information Age Economics, Inc. (IAE), a Washington D.C.-based research and consulting firm. I founded IAE in March, 1978, after serving for approximately eight years in senior-level positions with the U.S. Government, first as Chief Economist and Special Assistant to two Chairmen of the Federal Communications Commission (FCC), Dean Burch and Richard E. Wiley, then as Chief Economist of the House of Representatives Telecommunications Subcommittee, under the Chairmanship of Cong. Torbert H. Macdonald and Cong. Lionel Van Deerlin, and finally as Senior Telecommunications Economist and Policy Adviser in the Office of Telecommunications Policy, Executive Office of the President. I attended The London School of Economics

and Political Science, University of London, as both an undergraduate and graduate student, and have a Ph.D. in Business and Telecommunications from Indiana University. My resume, litigation experience, and publications are attached.

2. In connection with the preparation of this report, I reviewed the documents listed in the attached Appendix 2: Reference Materials, along with the amended complaint in this case, Judge Jelderks' decision in Qwest v. City of Portland (March 22, 2002), the Ninth Circuit's decision on appeal thereof (October 12, 2004), the Ninth Circuit's decision in City of Auburn v. Qwest, as amended (July 10, 2001), and the FCC's decision in the Pittencrieff case (October 2, 1997). I worked with Michael F. Carlo, M.B.A. in gathering the information used in this report. Mr. Carlo worked under my direction and supervision.

3. Based on my training and my experience in the telecommunications industry, I was asked to express an opinion on the following issues:

a. From an economic standpoint, is there reason to conclude that the statutes, regulations or legal requirements challenged by plaintiffs "may prohibit" entry? I conclude that there is no evidence to suggest that the regulations "may prohibit" entry, based on a comparison with other communities of similar size, and on general economic principles.

b. From an economic standpoint, is there reason to conclude that the City's approach to telecommunications franchising promotes competition? Is there reason to conclude that the existence of the City's IRNE network promotes competition? I answer both questions in the affirmative, based on a comparison of Portland to other Cities, and on data that suggests that

IRNE's entry into the market enhances opportunities for competition. Indeed, an examination of the relative numbers of competitive telecommunications services providers in the comparable cities, listed below in this report, clearly demonstrates that the city of Portland has a relatively large number of competitive providers, representing a significant indication that the city's regulatory policies have not inhibited competitive entry. On the contrary, competitive entry has been enabled by the city's pro-competitive policies. In sum, the City of Portland has fully lived up to the goals and spirit of The Telecommunications Act of 1996.

c. Is there reason to find that the "in-kind" requirements contained in the Portland franchises are part of a "fair and reasonable" compensation package for use of the rights of way in light of industry practices, and are nondiscriminatory and competitively neutral? I conclude that the "in-kind" requirements are fair and reasonable, and fairly common within the telecommunications industry in transactions where one entity provides a resource (whether rights of way or conduit) to another. In-kind "payments" are not new in the telecommunications-information industry having existed as a common business practice since before World War Two. In-kind merely refers to another form of "payment," for example the performance of "free" services and/or the provision or sharing of facilities. Major telecommunications companies, for example BellSouth, Southwestern Bell, and Verizon, among others, publicize websites that specialize in the sharing of conduits and rights of way, where a variety of deals and methods of payment can be struck, see Appendix 2 for a list of carrier websites and pole attachment literature. I also conclude that the requirements imposed upon telecommunications providers here are relatively similar, and are both non-discriminatory and competitively neutral. Moreover, the management of the rights of way program does effectively allow for competition while balancing the interests of the taxpayers in the city of Portland.

B. ASSUMPTIONS UNDERLYING REPORT; TERMS.

4. I have been asked by the attorneys for the City to assume that all the challenges raised by plaintiffs relate to "statutes, regulations or legal requirements," within the meaning of 47 U.S.C. § 253, even though I understand that City contends that several of plaintiffs' challenges raise issues that are not the proper subject of a Section 253 challenge. I have prepared this report consistent with this assumption so that I could address contentions raised by plaintiffs. I have no opinion one way or the other as to the validity of the assumption.

5. I refer to Plaintiff Qwest Communications Corp below as QCC. The term "Qwest" refers to the incumbent local exchange carrier, an affiliate of QCC. I refer to plaintiff Time Warner Telecom of Oregon LLC as "TWTC" or "Time Warner." IRNE is Portland's "Integrated Regional Network."

6. In this report, I summarize my opinions and the current bases for those opinions, based on the information reviewed thus far. As I review additional information I may revise the opinions expressed in this report, add additional opinions, or both.

C. BACKGROUND

7. Section 253 of the Telecommunications Act of 1996 preempts local laws and regulations that "prohibit" or have the "effect of prohibiting" the "ability" of any entity to provide "telecommunications services," subject to certain exceptions spelled out in Sections 253(b) and (c). The term "telecommunications services" refers only to transmission services provided on a common carrier basis. The term does not include a wide variety of services that a lay person might consider telecommunications services, such as Internet access service.

8. Neither the Act nor the decisions of the Ninth Circuit tells us precisely what is meant by the terms "may prohibit" or "effectively prohibit." What is clear is that Section 253 was part of a major rewrite of the nation's telecommunications laws designed to "promote competition and reduce regulation in order to secure lower prices and higher quality services for American telecommunications consumers and encourage the rapid deployment of new telecommunications technologies."

9. This overall goal, read together with the plain language of Section 253 suggests that it is important to keep basic economic principles in mind when determining whether a particular requirement may prohibit or effectively prohibits the ability of an entity to provide telecommunications services - at least where there is no direct evidence that a particular plaintiff actually has been prohibited from providing a service. That is because it is easy to confuse the effects of regulation with the effects of a competitive market. In a competitive market, we assume some companies will fail, for a variety of reasons; that is actually a desirable outcome. Likewise, in a competitive market we expect incumbent local exchange carriers like Qwest and Verizon to lose customers to new entrants. The

fact that companies are going out of business or losing customers does not, in and of itself, tell us whether competition is being inhibited by regulation, or fostered.

10. The FCC has suggested that the relevant issue is whether a challenged regulation "materially inhibits or limits the ability of any competitor or potential competitor to compete in a fair and balanced legal and regulatory environment," See F.C.C. Rec 1735 (October 2, 1997).

D. APPLYING ECONOMIC PRINCIPLES - WHAT MUST ONE SHOW TO PROVE THAT A POLICY MAY PROHIBIT ENTRY?

11. One way to approach the Ninth Circuit's "may prohibit" test would therefore be to consider the basic characteristics of competitive marketplaces, and to adopt tests that are consistent with the operation of those marketplaces.

a. In a competitive marketplace, providers have distinct advantages one over another. Often advantages are accompanied by disadvantages. Companies that "own" facilities may have advantages over companies that "lease" from them, but the former may require substantial upfront capital that lessees do not require. Not only is it difficult, it is inadvisable to remove these so-called advantages because their removal distorts competition, which rewards the most effective provider of services over the long-term, and results in an efficient allocation of resources. This is true whether the competition is between two private entities, or a public and a private entity. For example, municipalities might have certain so-called "tax-free" advantages but are subject to what might be regarded as serious business disadvantages because they are subject to referendum and voting obligations. In this context, it should be obvious that the FCC's reference to a "fair and balanced" *legal and regulatory* environment does not require elimination of economic advantages or disadvantages generally, including those which in a marketplace would flow from control of assets. Policies that involve transactions or behavior similar to that which occurs in competitive markets should not be treated as "prohibitory," except perhaps in cases where the activity would violate the antitrust laws.

b. In a competitive marketplace, individual customers will switch from one provider to another, and, over time, may switch several times. The mere fact of switching is not proof that there are barriers to entry. Of course, when Buyer A chooses Seller A over Seller B, Seller B may feel that it is being "prohibited" from providing service, but it is not in any meaningful economic sense. The choice is the necessary result of the marketplace and is precisely what we want to occur. It is for this reason that in antitrust contexts, one cannot generally show a competitive harm merely by showing a loss of customers. Rather, except in very rare circumstances one must show harm to consumers or product users in the context of a relevant product and geographic market.

c. Nor is it a barrier to entry when sellers and buyers engage in swaps of goods and services, or choose to deal with one another for reasons other than strictly price. In a competitive marketplace, if Buyer A has an asset that Seller A needs or can use, Seller A may well be willing to provide service at a lower, or even at no cost, in order to obtain that asset; the

Seller can and should take into account what the Buyer brings to the table. In a competitive marketplace, Buyers and Sellers may choose to deal with one another even where there are cheaper price alternatives for reasons of quality of service, trust, or other intangibles

d. In a competitive marketplace, competitors pay for resources that are used to provide products or services. In a competitive marketplace, charges for use are not limited to out-of-pocket expenses, but also reflect the value of the property used. Policies that require payment at value are consistent with a "fair and reasonable" marketplace

e. As a basic matter of economics, while an entity that wishes to use property should pay for the use of that property, it does not follow that the owner of the property must also make a payment for its use. Owners are generally entitled to the use of their own property. Hence, the fact that an owner does not pay the same amount for use of its own ROW as does a lessee - even a lessee that competes with the owner - is not, standing alone, prohibitory in an economic sense. Allegations that IRNE uses the ROW with terms and conditions different from others, even if true, would merely reflect a typical condition of ownership. Ownership is merely one among many competitive factors, some of which may favor one or more competitors over others. Policies that recognize differences in ownership, are consistent with a "fair and reasonable" marketplace.

f. In a competitive marketplace, we encourage companies to resolve disputes through contract, and we allow for differences in contract between one customer and another customer. Even in regulated marketplaces, a regulated company and its customers generally are allowed to agree to contract terms, and regulatory agencies are expected to uphold those terms except in exceptional circumstances. This process allows parties to establish terms and conditions that take into account, for example, differences between one customer and another, and changes between the time one contract was signed and another negotiated.

g. In addition to the fee provisions that are at issue in this case, I understand that Qwest and Time Warner are challenging several "non-fee" provisions that the City claims (i) are not prohibitory; and (ii) are protected by subsections of Section 253 that protect from preemption, for example, requirements related to right of way management, and requirements related to compensation for use of the rights of way. My focus at this stage is on the prohibition claims. In deciding whether a non-fee provision is "prohibitory" it is important to recognize that the sort of non-fee provisions at issue here balance competing and complementary interests of government, the public and telecommunications providers. For example, suppose that government did not manage the rights of way in downtown Portland at all, and that as a result, telecommunications providers were able to enter the rights of way at a very low short-term cost. But, if, as a result, downtown streets deteriorated, access to local businesses were blocked, the overall impact could be to reduce the market for telecommunications service in the downtown area. More directly, if the location of facilities in the rights of way is not known, the cost of future entry may increase in terms of the cost of locating facilities, rerouting lines, damage to facilities, and so on. Hence, efficient right of way management will attempt to balance both short term and long term costs. From the standpoint of telecommunications providers, generally it should not be enough to show that a non-fee provision causes it to incur costs, at least absent some quantification that shows that a reasonably efficient company could not remain in the marketplace and comply with requirements. Rather, because right of way management costs may cause short-term inconvenience while yielding substantial long-term benefits, from an economic standpoint to establish a prohibition it should be necessary also to show both that the costs are substantial and that the benefits are outweighed by the costs.

12. Basing a "prohibition" claim on IRNE's entry into the marketplace raises particularly troubling issues. IRNE does not, and is not in a position to provide all the communications services desired by its customers. Rather, IRNE provides important local connections that allow users to communicate with one another more efficiently, to increase usage without substantially increasing expenses and to reach points where services (such as local exchange service, long distance services and Internet services) can be purchased from a variety of competitive providers.

13. One of the traditional problems in the telecommunications marketplace is that incumbent local exchange carriers, like Qwest, have priced services well above the rates that would be expected in a competitive marketplace. They have been able to do so in

part because of control over key elements of the communications network which provide them a unique ability to service certain customers. If IRNE construction of facilities breaks local distribution bottlenecks, it may open the door to additional competition among private companies.

14. As suggested above, in a competitive market, we would expect buyers to be able to switch sellers, and we would expect that buyers might use different strategies - joint purchasing, vertical integration and so on -- to avoid becoming captive customers of companies with market power. To the extent that IRNE allows users to create products tailored to their own requirements (products which may not even be offered by traditional participants in the marketplace) it would enhance competition, not harm it. In a study in the February 2005 issue of Applied Economic Studies, researchers assessed whether public investments in communications networks crowds out private investment. The study showed that no such crowding out occurred and that "the empirical model indicates that municipal communications actually increases private firm entry."[1]

15. In addition, to the extent that IRNE helps Portland schools and governments deliver services (including emergency services) more efficiently, it may enhance the overall attractiveness of the Portland region to companies, and make the area a more attractive market for businesses generally and for telecommunications providers. That is, IRNE may enable schools and governments to communicate and provide services in new ways, without increasing government expenditures. This in turn may enhance the overall health of the Portland region, and increase the overall size of the telecommunications

[1] George S. Ford, "Does Municipal Supply of Communications Crowd-out Private Commmunications Investment? An Empirical Study. Applied Economic Studies, February 2005. p. 9.

marketplace. To put it another way, the telecommunications marketplace is not static. If IRNE's entry (or Portland's right of way franchising and management policies, or both) help increase the size of the communications marketplace, IRNE's operations will not be prohibitory.

16. With respect to IRNE, plaintiffs' challenge to IRNE should be rejected unless they are able to demonstrate, at a minimum, that IRNE has a long term effect of reducing business opportunities in the telecommunications marketplace in Portland. This research demonstrates the opposite: That the market is growing and thriving. There is also evidence that IRNE has created competitive opportunities.

E. THE RESEARCH: PORTLAND'S CONTRACTS WITH WIRELINE TELECOMMUNICATIONS PROVIDERS

17. The initial aspect of the research involved a review of Portland's existing franchise agreements with Point-to-Point and Competitive Local Exchange Carrier (CLEC) franchisees, and the Temporary Revocable Permit held by Qwest. For each of the contracts and the TRP, specific attention was given to the fee structure (per linear foot or revenue percentage), scope and duration of the contract, sales and leasing provisions, and any "in-kind" requirement provisions, in part because it is my understanding that those issues have been the focus of the disputes in this case, and in part because those provisions are the provisions that directly involve payments to the City in the form of cash, services, or facilities. More specifically, the review focused on:

- Contract start date and term
- Type of rate structure (linear foot vs. revenue percentage)
- Selling and subleasing provisions
- In-kind requirements[2]

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[2] All contracts available at Portland Website - http://www.portlandonline.com/index.cfm?c=33150

In assessing the contract provisions, the research detected and tracked the transformation of contracts from basic to increasingly market driven over the period from 1990 through 2005. Generally, the review of the City of Portland's telecommunication franchise agreements finds that the agreements are largely similar:

(a) Exclusive of temporary arrangements, all agreements to date have been for ten years.

(b) Setting aside the Qwest TRP, all agreements with private companies have required that the provider include some element of in-kind remuneration, in the form of incremental ducts for the City's use whenever a provider undertook construction projects. In addition, some of the contracts contain what amount to distinct business deals established where a provider planned construction through a facility that is not under the control of the City (this is true for the QCC contract). It is my understanding the Qwest TRP does not include an "in-kind" provision because of state law limits on the fee that can be charged to Qwest. However, Qwest overall pays a higher amount, in absolute dollars, than does QCC or Time Warner.

(c) The Agreements between the City and IRNE also call for remuneration, and also provide for what might be characterized as "in-kind" rights. There is, however, an obvious and important distinction between an IRNE installation and a private installation. Even without an agreement, it is far from obvious that IRNE would be able to refuse a directive to install facilities on behalf of other city departments, or refuse to share facilities with other City departments.

(d) Point-to-point carriers were required to pay an annual fee based on linear footage included in the contracts. Rates increased each year based on an inflation-related algorithm. All CLEC contracts called for 5% of gross revenues generated as an annual fee.

(e) Starting in 1997, agreements incorporated a provision that the City of Portland would receive 1 % of the revenue generated from the sale of ducts to other providers.

(f) The agreements also began to include a provision giving the City of Portland a percentage of revenue associated with the sub-lease of ducts in 1997. Initially this fee amounted to 1% of associated revenues. In certain contracts, the fee increased to 5%. In other instances, specifically with the CLEC agreements, this provision was not included in more recent contracts:

Summary of Franchise Agreement Provisions

Provider	Type	Start Date	Linear Footage	Cost per Rev. or Lin. Foot	Sell	Lease	In Kind
AT&T Long Distance	Pt-to-Pt	1/15/1990	78,750	$ 3.15	0%	0%	Yes
PT Cable	Pt-to-Pt	10/25/2000	25,200	$ 3.15	0%	0%	Yes
WorldCom	Pt-to-Pt	2/26/1997	5,600	$ 2.80	0%	0%	Yes
Sprint Communications	Pt-to-Pt	9/4/1997	56,084	$ 3.16	0%	0%	Yes
Qwest Communications Corp.	Pt-to-Pt	12/31/1997	14,038	$ 3.01	0%	0%	Yes
WCI Cable	Pt-to-Pt	9/30/1998	60,000	$ 3.11	1%	1%	Yes
360 Networks	Pt-to-Pt	11/12/1998	125,000	$ 3.01	1%	1%	Yes
FTV Communications	Pt-to-Pt	11/12/1998	18,730	$ 3.04	1%	1%	Yes
Will Tel	Pt-to-Pt	11/8/2000	17,100	$ 3.04	1%	1%	Yes
Broadwing Communications, LLC	Pt-to-Pt	11/8/2000	45,000	$ 3.04	1%	5%	Yes
Tyco Networks (U.S.), Inc.	Pt-to-Pt	5/22/2002	110,000	$ 3.12	1%	5%	Yes
MCI Metro	CLEC	10/23/1995		5%	0%	0%	Yes
Electric Lightwave, Inc.	CLEC	8/19/1996		5%	0%	0%	Yes
Enron Broadband Services	CLEC	5/26/1997		5%	1%	1%	Yes
Time Warner Telecom	CLEC	9/4/1997		5%	1%	1%	Yes
Level3	CLEC	1/17/2000		5%	1%	1%	Yes
TCG Oregon	CLEC	2/8/2000		5%	1%	1%	Yes
McLeod USA Telecommunications	CLEC	12/4/2000		5%	1%	5%	Yes
XO Communications	CLEC	12/4/2000		5%	1%	5%	Yes
AboveNet	CLEC	2/13/2001		5%	1%	0%	Yes
All Phase Utility	CLEC	6/20/2001		5%	1%	0%	Yes
OnFiber Communications	CLEC	9/16/2001		5%	1%	0%	Yes
Integrated Network Regional Enterprise (IRNE	CLEC	5/26/2003		5%	1%	5%	Yes with modifications

F. RESEARCH AND KEY FINDINGS: GENERAL COMPETITIVENESS

18. As a next step in our research, we sought to determine whether Portland's telecommunications policies were likely to promote competition or whether instead they may prohibit or have the effect of prohibiting the ability of an entity to provide telecommunications services. We did so by comparing the state of competition in Portland with that in comparable cities. If Portland's markets are as competitive or more competitive than comparable communities, that would be an indication that its policies

result in a "fair and balanced" marketplace that may not prohibit or effectively prohibit entry. Also, and particularly if Portland provides a valuable marketplace for telecommunications providers, there is good reason to defer to the assessments of the value of that marketplace reflected in contracts between the City and telecommunications providers.

The Comparison

19. The first step in identifying a list of comparable cities was to review the U.S. Census Bureau's Statistical Abstract of the United States: 2004-2005.

20. Like many American cities, Portland serves as an economic center for a larger metropolitan area. As an urban core, cities like Portland will provide highly concentrated and efficient operating locales for many industries, including telecommunications. Also, as an economic core for commercial entities, including corporate operations and retail, the urban sector offers significantly greater revenue opportunities for telecommunications service providers, including the ILEC, the CLECs, and Private Point-to-Point companies. Given this economic and business reality, the analysis focused on cities with an overall residential population within 100,000 inhabitants of Portland's 2003 residential population of 539,000. Thus, this study's initial pool of cities comparable to Portland was limited to those cities with residential populations between 439,000 and 639,000 in 2003. This filter resulted in the inclusion of 20 cities in the initial sample.

21. Given the favorable disproportionate contribution that cities like Portland provide in the broader adjacent metropolitan areas, the study then incorporated the population of the overall metropolitan areas of the above referenced sample cities. In this case, the study established a metric for metropolitan areas within an interval of 30% higher and lower than Portland. In 2003, Portland's metropolitan area had a population of

2,040,000. In assessing an interval of 30%,the study identified metropolitan areas with residents from 1,428,000 to 2,652,000 in 2003. This interval size also showed a fairly distinct demarcation from data points beyond the interval.

22. The two demographic filters to identify cities most proximate to Portland in size and economic scope are:

a. Cities with resident populations within 100,000 of Portland's 539,000 inhabitants;

b. Of the cities identified in (a), only those cities with metropolitan areas within a 30% interval around Portland's metropolitan area population.[3]

23. Based on these filters, the cities which are most comparable to Portland for purposes of our analysis are:

Portland, OR	**539,000**	**2,040,000**
Charlotte, NC	***585,000***	***1,437,000***
Cleveland, OH	***461,000***	***2,140,000***
Denver, CO	***557,000***	***2,301,000***
Kansas City, MO	***443,000***	***1,905,000***
Las Vegas, NV	***517,000***	***1,577,000***
Milwaukee, WI	***587,000***	***1,514,000***
Sacramento, CA	***445,000***	***1,975,000***
Virginia Beach, VA	***439,000***	***1,637,000***

24. For a complete list of cities considered, please review Appendix A.

25. Once the comparable cities had been identified, the next phase of research involved contacting each city individually to determine the methodology by which they assess and manage telecommunications right-of-way issues. The research began with a review of publicly accessible information on city-specific Internet sites. At least one

[3] U.S. Census Bureau, Statistical Abstract of the United States: 2004 - 2005. Large Metropolitan Statistical Areas - Population: 1990 to 2003 and Incorporated Places with 100,000 or More in Habitants.

representative in each city was contacted. In nearly all cases, the cities cooperated with the research to the best of its ability. The cities provided information on the fee structures used in each location (linear foot, percentage of revenue, etc.), the actual fees being charged, the duration of agreements, and the inclusion of alternate fee types, such as in-kind charges, subleasing fees and sales fees. If further research indicates that any of the information provided to us was in error, we will make appropriate adjustments.

26. In addition to population in a given market, the economic value of a franchise will also be determined by the purchasing power available to the people residing in that market. Given the importance of income level to the provision and purchase of enhanced telecommunication services, the study considered broader economic statistics available through the U.S Department of Commerce's Bureau of Economic Analysis.

27. In several of the communities identified, localities are limited to recovering certain costs by state law. Telecommunications providers may pay little or nothing to use the rights of way in those states. In other communities, the fee structure appeared comparable to Portland. While there are plainly markets where providers pay lower fees, and are not subject to the same type of right of way management regulations, Portland's market is among the most competitive and potentially most lucrative for a telecommunications provider. Additionally, the fees charged by the city of Portland fall within the range of the comparable cities and were applied consistently among Portland's franchisees.

Cities Analyzed

28. *Charlotte, N.C.* The city of Charlotte, North Carolina, has very few procedures in place to manage telecommunications ROW issues. Currently, the city is considering

legislation to formulate a plan to better balance the public interest with the telecommunications industry. The fee for a temporary easement in Charlotte is $500. No additional fees are charged. The city representative acknowledges it can do a better job in managing the process. Without any structure in place, all road repairs and other related costs are borne entirely by the taxpayers, at an annual cost estimated in the millions of dollars. While Charlotte has slightly more providers than Portland, roughly 30 telecommunication providers, Charlotte does not attempt to manage the ROW function in manner which covers the cost of infrastructure degradation or recovery.

29. *Cleveland, OH.* Cleveland, Ohio, does not appear to have a department that addresses telecommunications ROW. No references exist on the city's website nor does anyone within the government bureaucracy seem to know the appropriate contact.

30. *Denver, Co.* Since 2001, the city of Denver has been unable to charge a fair value rent for use of the rights of way and it also does not recover all costs associated with use of the rights of way; it instead charges a nominal fees to cover the costs of administration of the ROW application. Costs associated with infrastructure degradation must be borne by the taxpayers of the city or of the state. Denver has only five active telecommunications companies currently operating in Denver.[4]

31. In 1997, the city of Denver's charged $2.84/ft. for arterial ROW and allowed a provider to choose to pay 5% of gross revenues in lieu of the per foot fee. In subsequent years, this fee was increased in proportion to the Consumer Price Index (CPI). The per foot fee charged by Denver was noticeably higher than that being charged by Portland at the same time.

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4 Conversation with Darrin Zuehlke, Office of Telecommunications, City of Denver, May 19, 2005.

32. In its 1997 policy, Denver also stated that "the city may accept or require in-kind compensation from rights-of-way users in lieu of all or a portion of fixed fees."[5]

33. *Kansas City, MO.* Kansas City, Missouri, relies on legislation from the 1940s, which was modified in the 1960s, to manage its telecommunications and ROW matters. The city requires a nominal business license fee, in addition to requiring 6% of gross revenues for residential accounts and 10% of gross revenues for commercial accounts. Certain service revenues are considered exempt from the fee on gross revenues.

34. Kansas City has not been active in managing the ROW situation since the passage of the Telecommunications Act of 1996.[6] Kansas City currently has roughly 20 telecommunication providers with approval to operate within the city.[7]

35. *Las Vegas, NV.* By Nevada state law, Las Vegas may charge a maximum of 5% of retail intrastate gross revenues as a fee for a business license, franchise or public right-of-way. The City may require provision of in-kind facilities rather than cash payments. Currently, Las Vegas demands the maximum allowable payment of 5% from its providers.[8] The City of Las Vegas has eight franchised providers in its ROW program.[9]

36. *Milwaukee, WI.* The City of Milwaukee, Wisconsin is limited by state law to cost-based fees for use of the rights of way. However, Milwaukee also owns its own conduit system and leases that conduit to telecommunications providers. The rents for

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5 Denver Council Bill No. 612, Ordinance No. 628, 1997. Ordinance was later ruled to be contrary to state constitution in matter City & County of Denver v. Qwest in 2001.

6 Interview with Bill Geary, Kansas City Counsel on April 14, 2005.

7 Interview with Bill Geary, Kansas City Counsel on May 19, 2005.

8 Interview with Christopher Wallace, Franchise Officer, City of Las Vegas, April 7, 2005.

9 Interview with Christopher Wallace, Franchise Officer, City of Las Vegas, May 19, 2005.

conduit are not limited to cost. For conduit that does not involve river crossings, the fees can be up to $2.85 per linear foot per year. The charges for river crossings are significantly higher, up to $105 per linear foot per year.

In addition, if a provider needs to install conduit from the City system to its own conduit system (essentially linking two systems together), or from one City-owned manhole to another (as may occur if City conduit between the two manholes is already full), the provider must (a) deed the conduit installed to the City and (b) install additional conduit for the City, which is also deeded to the City.[10]

37. *Sacramento, CA*. Sacramento, California does not charge telecommunications providers a rent for a franchise to use rights of way. It does impose a cost-based street cut fee, which appears designed to take into account costs that do not appear to be accounted for directly in permitting fees imposed by other communities examined in this study. Sacramento bases its fees on the age of city streets. The fee structure appears to be designed to capture the loss of street life caused by street cuts. In the case of newest streets, the fees can range from $3.50 per linear foot for longitudinal streets up to $7.00 for transverse excavations. For the oldest streets (over 15 years old), the rate is from $1.00 to $2.00 per linear foot. The scale is a sliding scale based on age.[11] Because of limits imposed by state law, the city does not have any franchise agreements with telecommunications providers and does not receive any supplemental revenue once the

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10 Interview with Randolf Gshwind, Information and Technology Management, City of Milwaukee, April 14, 2005.

11 Sacramento City Resolution 97-537.

streets have been repaired. Currently, the city has approximately seven telecommunications providers in operation.[12]

38. *Virginia Beach, VA*. Virginia Beach characterizes itself as being subject to a very restrictive state law with regard to telecommunication rights-of-way issues. Virginia Beach believes these restrictions prevent it from imposing a rent for use of the rights of way, or from recovering (through permitting fees) all the costs caused by telecommunications providers who use the rights of way. While telecommunications must apply for a permit before engaging in certain activities in the rights of way, the obligation of the provider is to ensure the right-of-way used is restored. No fee structure exists. The city had imposed a $1 fee per residential and commercial line, but withdrew the charge. The city does not feel it can effectively control costs associated with right of way use given the state legislation.[13] Currently, Virginia Beach has five telecommunications providers in operation.[14]

39. The research suggests that Portland's policies have resulted in very competitive entry compared to other communities.

Comparison to Portland's Business Climate

40. In its "Metro Area and State Competitiveness Report 2004," the Beacon Hill Institute, lists Portland, Oregon, as the third best competitive metropolitan area of the 50 largest metropolitan areas[15] in the United States. The report assessed metropolitan areas

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12 Interview with Dave Colliman, ROW Streets Management, City of Sacramento, May 23, 2005.

13 Interview with Bill Macali, General Counsel, City of Virginia Beach, April 19, 2005.

14 Interview with Bill Macali, General Counsel, City of Virginia Beach, May 23, 2005

15 Virginia Beach is included in the Norfolk metropolitan area.

in the categories of (1) Government and Fiscal Policy, (2) Security, (3) Infrastructure, (4) Human Resources, (5) Technology, (6) Business Incubation, (7) Openness and (8) Environmental Policy. Of the comparable cities included in this report, Portland ranks first overall and in the critical business related categories.[16] In analyzing the core business climate variables included in the Beacon Hill study, this report focuses on ten variables most critical to economic growth. When assessing these variables, Portland also led the comparable cities, with Denver a close second. This data also suggests that Portland has created a competitive environment for telecommunications providers.

	Portland	Denver	Kansas Citv	Charlotte	Milwaukee	VA Beach	Las Veaas	Sacramento	Cleveland
Overall Rating									
Peer Group Rating									
Government Index	4	7	3	1	6	2	5	9	8
Bond Rating	4	6	3	1	7	2	9	8	5
Infrastructure Index	4	3	5	2	6	7	1	9	8
Broadband Penetration	3	5	8	5	5	5	2	1	9
Technology Index	3	1	2	5	6	7	9	4	8
New Patents Issued	1	6	8	2	3	9	3	7	5
Business Incubator Index	4	7	6	8	9	5	3	2	7
Employer Births	3	t	5	7	8	5	2	4	9
New Publicly Traded Cos	2	1	3	5	6	9	4	7	8
Venture Capital Investment	4	2	6	5	8	3	9	1	7

Business Total Peer Group Rating

41. The city of Portland receives its highest marks in its ability to encourage innovation and in creating new businesses. In the 2004 Inc. Magazine list of 500 fastest growing privately held companies, Portland hosted seven of the top 500, leading the other comparable cities by a significant margin.[17]

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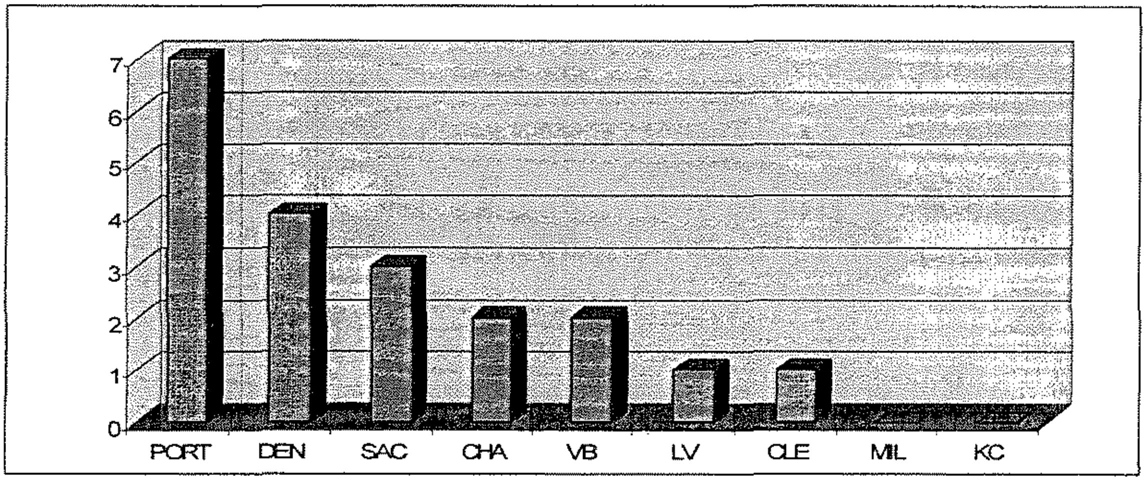
16 "Metro Area and State Competitiveness Report 2004," The Beacon Hill Institute at Suffolk University.

17 Listing of companies is available at www.inc.com/resources/inc500.



Economic Value to Franchisee

42. In determining the value of the telecommunications ROW to a telecommunications provider, the revenue that can be generated in the community is a significant consideration. From the perspective of a franchisee, an agreement for 1,000 linear feet in Manhattan is significantly more valuable than a franchise for 1,000 linear feet in Tupelo, MS. Manhattan has greater population density and significantly higher purchasing power, which will result in an opportunity for the franchisee to realize higher revenues.

43. In this part of the analysis, local economic and demographic data were reviewed and analyzed in an attempt to determine relative value. Overall, telecommunications service revenues are influenced by various factors, including population density, economic growth, the business environment, educational and other skills of the population, employment opportunities, local governments' roles in attracting business, local tax policy, etc., that contribute to the demand for voice, data, video, and other services. Of these variables, population density, population growth and personal income are most readily measured.

44. Using ordinal ranking in these three variables, Denver demonstrates the best combination of the population density, population growth and personal income. Portland, Sacramento and Cleveland follow.

	Population Density	Population Growth	Personal Income	Total Score
1 Denver	6	2	2	10
2 Portland	5	4	3	12
2 Sacramento	3	5	4	12
2 Cleveland	2	9	1	12
5 Las Vegas	4	1	8	13
6 Milwaukee	1	8	6	15
7 Charlotte	7	3	7	17
8 Kansas City	9	6	5	20
9 Virginia Beach	8	7	9	24

45. The importance of population density in assessing the value of the ROW is clear. The more people per linear foot a city has, the more potential customers per linear foot and the greater the expected revenue potential. In a more densely populated area, the firms will gain more revenue per linear foot. In assessing the comparable cities, Portland falls directly in the middle - meaning telecommunications providers in Portland have an opportunity to receive average revenue per linear foot based on the population density variable:[18]

Milwaukee, WI	6,108.2	(residents per square mile)
Cleveland, OH	5,940.7	
Sacramento, CA	4,578.2	
Las Vegas, NV	4,563.1	
Portland, OR	4,013.4	
Denver, CO	3,631.0	
Charlotte, NC	2,414.4	
Virginia Beach, VA	1,768.0	
Kansas City, MO	1,413.1	

18 U.S. Census Bureau, Statistical Abstract of the United States: 2004-2005, Incorporate Places with 100,000 or More Inhabitants in 2003.

46. As metropolitan areas add inhabitants and commercial entities, the value of the linear foot fee structure continues to increase. Since 1990, rates in Portland and other cities have increased in proportion to inflation, during a period of low inflation. In the same metropolitan areas, the number of inhabitants has increased at a much higher rate than overall inflation. In Portland, the base rates for the first franchise agreements were set in 1990. From 1990 - 2003, the comparable cities and their metropolitan areas have all grown:[19]

Las Vegas, NV	**85.6%**
Denver, CO	**30.7%**
Charlotte, NC	**29.9%**
Portland, OR	**26.5%**
Sacramento, CA	**21.3%**
Kansas City, MO	**12.2**
Virginia Beach, VA	**8.7%**
Milwaukee, WI	**4.8%**
Cleveland, OH	**2.2%**

47. In assessing the comparable cities, Portland falls above the median for population growth-meaning telecommunication providers in Portland have an opportunity to receive above average revenue per linear foot based on the population growth variable

48. Finally, once the people have moved to a metropolitan area and are fairly densely populated, a critical remaining piece to creating customers for telecommunications companies is income level. With a higher personal income level, greater expenditures can be made on items such as telecommunications services. According to the Bureau of Economic Analysis (BEA), overall personal income in each metropolitan area for 2002, in millions of dollars, was:[20]

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19 U.S. Census Bureau, Statistical Abstract of the United States: 2004-2005, Large Metropolitan Statistical Areas - Population: 1990 to 2003.

20 Information on personal income is available through Bureau of Economic Analysis www.bea.gov.

Cleveland, OH	**136,756**
Denver, CO	**129,650**
Portland, OR	**85,439**
Sacramento, CA	**75,149**
Kansas City, MO	**74,810**
Milwaukee, WI	**73,730**
Charlotte, NC	**72,648**
Las Vegas, NV	**51,652**
Virginia Beach, VA	**50,180**

49. In assessing the comparable cities and their relative economic scale and purchasing power, Portland falls near the top in personal income - meaning telecommunication companies serving the Portland area have an opportunity to receive significantly more revenue per linear foot based on the metropolitan area's personal income level.

50. In assessing the population density, population growth and personal income, the research demonstrates that the City of Portland offers a strong combination of these three characteristics. When the city's favorable business environment is factored into this analysis, it is clear that Portland offers significant economic value to its telecommunications franchisees.

51. Based on the foregoing, I conclude:

a. There is evidence, based on comparison to the state of competition in other markets, that, in an economic sense, Portland's telecommunications policies are pro-competitive, and do not have and are not likely to prohibit or effectively prohibit entry into the market. This is true as to both the fee and the non-fee provisions.

b. Given this environment, there is little reason to suppose that the contracts entered into by CLECs and point-to-point carriers are unfair, or fail to reflect a fair marketplace valuation of the rights of way in Portland. The agreements themselves suggest that Portland's policies may not prohibit entry or have the effect of prohibiting entry.

c. There is evidence that Portland has created a business environment that provides benefits to telecommunications providers, and could fairly charge a higher fee for use of the rights of way in Portland than is charged in other Cities.

d. In their complaint, QCC and TWTC accuse the City of Portland of creating an environment that is not in the spirit of the Telecommunications Act of 1996. On the contrary, the research clearly indicates that the City of Portland has created an environment that serves the competitive goals of the Act. An examination of the relative numbers of competitive telecommunications service providers in the comparable cities clearly demonstrates that the city of Portland has a relatively large number of competitive providers which is a significant indication that the city's regulatory policies have not inhibited competitive entry. On the contrary, competitive entry has been enabled by the city's pro-competitive policies. In sum, the City of Portland has fully lived up to the goals and spirit of the Act in connection with its management of the ROW and the charges for the use of that right of way, as indicated by the comparison to other markets and by the terms of the contracts themselves.

G. KEY FINDINGS: IN-KIND PROVISIONS

52. A central contention of QCC and TWTC is that the in-kind provisions of their contracts are particularly objectionable, presumably because the City may be able to use

those facilities to avoid purchasing services from QCC and TWTC, and because IRNE may obtain advantages in its efforts to provide services or facilities to other governmental entities. In-kind provisions are commonplace in the telecommunications-information industry, see Paragraph 3 c. above, and a list of Regional Bell websites listed in Appendix 2.

53. This assumes that in the private marketplace, in-kind compensation is uncommon, or that companies refuse to enter into arrangements that may be helpful to a competitor. That is not the case. In reality, each element of in-kind compensation has a monetary value. In the case of the city of Portland, the in-kind compensation was incremental duct being laid in already planned locations. When one views the overall franchisee fees, including the monetary value of the in-kind provisions, the city of Portland certainly falls within the range of the comparable cities.

54. From an economic standpoint, there are several reasons why a company may choose to provide in-kind benefits rather than cash. First, if the in-kind facility is of more value of equal value to a seller than cash, the seller may be willing to take in-kind benefits in lieu of cash; likewise, if a buyer can provide an in-kind facility and reduce cash outlays, it may be worthwhile to provide the in-kind benefit. This is particularly so where (as is true here), the in-kind benefit can be provided relatively cheaply as part of a larger project, where a company may gain economies of scale and volume discounts for the in-kind requirements.

55. A seller and buyer may agree to in-kind arrangements where doing so may reduce costs and potential risks to both parties. Suppose, for example, that a company wishes to place a facility along a railroad ROW, and the railroad may wish to use similar facilities

at some point in the future. If the railroad builds along the ROW later, there may be a risk of harm to the facilities of its lessee, or there may be costs and disruption associated with the installation. The parties could agree at the outset who would bear those costs and risks; or they could agree to terms (such as provision of facilities in-kind) that minimize the risks. In the case of Time Warner Telecomm Inc., the company admits that it "benefits from its relationship with Time Warner Cable, an affiliate of Time Warner, Inc., both through access to local rights-of-way and construction sharing costs." [21]

56. Third, a competitor may agree to arrangements that may have a beneficial impact on the overall marketplace. As I mentioned above, if one impact of IRNE is to make government and educational institutions more efficient, the effect may be to increase the overall market for telecommunications services, or to make it easier to serve certain customers (this is particularly true for companies that do not have facilities throughout the community). There is evidence I discuss in the next section that IRNE has eliminated some bottlenecks to competition, for example.

57. There is no reason to assume that the in-kind provisions are inherently anticompetitive or prohibitory. In-kind provisions may be of particular benefit to new entrants into the marketplace who may wish to reduce cash outlays or other operational risks.

58. Based on a comparison of the contracts for telecommunications franchisees in the city of Portland, the in-kind provisions appear substantially similar, and do not appear to unfairly disadvantage any company.

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[21] US Securities and Exchange Commission report, Time Warner Telecom Inc. 10-Q, June 30, 2004, p. 13.

H. KEY FINDINGS: IRNE

59. In an effort to streamline government services, while significantly reducing the growth in telecommunications costs to the city and its taxpayers, Portland introduced the Integrated Regional Network (IRNE) in 2001. The organization's goals include providing a cohesive, redundant communications infrastructure that will allow a multitude of government agencies to communicate on secure fiber lines at high speeds and low cost. Currently, IRNE provides voice and data services to all government bureaus of the City of Portland, along with data services to the following agencies[22]:

- Oregon State Department of Transportation
- Oregon State Department of Administrative Services
- Portland Public Schools
- Multnomah County
- Multnomah Educational Service District
- City of Hillsboro Police Department

60. As I suggested at the beginning, IRNE's entry into the marketplace as a competitor may have a number of pro-competitive effects. The research regarding the general state of competition in Portland certainly suggests that IRNE is not now having an anticompetitive effect. There is evidence that IRNE's presence has actually itself resulted in greater competition in Portland among private companies, thus serving the pro-competitive goals of the Telecommunications Act. For example, TWTC complains in an internal e-mail that it lost a contract to serve Metro to another private provider because Metro was able to take service at a local telecommunications hotel thanks to IRNE.

[22] Documentation provided via factual background summary and interviews with Terry Thatcher, General Counsel, City of Portland and Mark Gray, Portland's Office of Communication and Networking.

61. To understand TWTC's email, it helps to have a little background on the telecommunications industry. Telecommunications providers often bring facilities to one or more central locations in a market where providers can interconnect with one another and exchange traffic. From these "telecommunications hotels" or "meet me" points, individual systems run to various parts of the community. If a retail customer such as a business has its own connection to the hotel, it could potentially buy telecommunications services from a large variety of providers. If the business does not reach the hotel directly, it must either purchase all it services from someone who reaches its offices, or lease connections back to the hotel. It may have very limited choices in this regard, and so it may not be able to obtain services at truly competitive prices. What TWTC is complaining about in the email is that Metro was able to use IRNE facilities to get to a point where it could purchase services at competitive rates. TWTC is complaining that absent IRNE, it would have been the only provider capable of serving Metro. [23]In this instance, stopping IRNE would have reduced competition in the telecommunications marketplace.

62. Another case of enhanced competition has also been brought to my attention. When the Portland School District began using IRNE, instead of the local incumbent telecommunications firm (Qwest Corporation, an affiliate of plaintiff QCC) to obtain access to the local "telco hotel," that also opened more ISP options. In that case, ironically, the District dropped an ISP run by the State of Oregon's government and hired one of the plaintiffs in this case, Time Warner.

[23] Email from Jon Nicholson to Brian Thomas regarding IRNE Service to Metro, August 11, 2004.

63. I have also reviewed the reports of interviews with IRNE customers. All the customers interviewed report that their level of data service has improved and costs have dropped or remained constant since switching to IRNE. Those are results one would wish to see in a competitive market and they appear to be the direct result of IRNE's operations. That is to say, consumers of telecommunications have been benefited by IRNE's presence in the market.

Alan Pearce

Alan Pearce, Ph.D.

Date: 9/1/05

APPENDIX 1: COMPARABLE CITIES ANALYSIS

Comparable Cities Analysis

City/Metro Area	2003 City Pop.		2003 SMSA Pop.	
San Antonio	1,215,000			
San Jose	898,000			
Indianapolis	783,000			
Columbus	728,000			
Austin	672,000			
Milwaukee	**587,000**	**Ft. Worth**	5,590,000	
Charlotte	**585,000**	**Washington, DC**	5,090,000	
Ft. Worth	**585,000**	**Boston**	4,440,000	
El Paso	**584,000**	**Seattle**	3,142,000	
Boston	**582,000**	**Denver**	2,301,000	***Denver***
Seattle	**569,000**	**Cleveland**	2,140,000	***Cleveland***
Washington, DC	**563,000**	**Portland**	2,040,000	***Portland***
Denver	**557,000**	**Sacramento**	1,975,000	***Sacramento***
Nashville	**545,000**	**Kansas City**	1,905,000	***Kansas City***
Portland	**539,000**	**Virginia Beach**	1,637,000	***Virginia Beach***
Oklahoma City	**523,000**	**Las Vegas**	1,577,000	***Las Vegas***
Las Vegas	**517,000**	**Milwaukee**	1,514,000	***Milwaukee***
Tucson	**508,000**	**Charlotte**	1,437,000	***Charlotte***
Albuquerque	**472,000**	**Nashville**	1,371,000	
New Orleans	**469,000**	**New Orleans**	1,318,000	
Cleveland	**461,000**	**Oklahoma City**	1,133,000	
Fresno	**451,000**	**Tucson**	893,000	
Sacramento	**445,000**	**Fresno**	850,000	
Kansas City	**443,000**	**Albuquerque**	765,000	
Virginia Beach	**439,000**	**El Paso**	705,000	
Atlanta	423,000			
St. Louis	332,000			
Pittsburgh	325,000			
Tampa	318,000			
Cincinnati	317,000			
Buffalo	285,000			
Orlando	199,000			
Providence	176,000			

Exhibit 4
Report of Ed Whitelaw

Note: this excerpt excludes approximately 60 pages of qualifications and prior testimony.

Report of Ed Whitelaw

September 1, 2005

Prepared for

The City of Portland

by

ECONorthwest
99 W. Tenth, Suite 400
Eugene, OR 97401
(541) 687-0051

I. INTRODUCTION

My name is Ed Whitelaw. I am a professor of economics at the University of Oregon, where I have taught since 1967. I am also president of ECONorthwest (ECONW), which provides analysis in economics, finance, planning and policy evaluation for businesses and government.

In the matter of Time Warner Telecom of Oregon, LLC (TWT) and Qwest Communications Corporation (QCC) v. the City of Portland (City), the City retained ECONW to evaluate and express an opinion on the prices that the City charges TWT and QCC for using the City's rights-of-way (ROW), and to consider and express an opinion on the Plaintiffs' claims regarding the City's Integrated Regional Network Enterprise (IRNE). The prices are set in the franchise agreements between the City and TWT and QCC. This matter has been brought under the Telecommunications Act of 1996.

I received a Ph.D. in economics from the Massachusetts Institute of Technology. I have testified on economic matters in administrative, legislative and Congressional hearings, and in courts in the Pacific Northwest and elsewhere. A copy of my vita and a table of my prior testimony is attached hereto as Exhibit A. ECONW bills my time at a rate of $375 per hour. No part of this compensation depends upon the outcome of this matter.

Throughout this report, I use "we," "our," and "us" to refer to my ECONW colleagues and me. In their work on this matter, my colleagues have worked under my direction. In this report, I summarize my opinions and the current bases for those opinions, based on the information we have reviewed so far. As we review additional information I may revise the opinions expressed in this report, add additional opinions, or both.

In preparing this report, I have relied on my general training, experience and knowledge regarding economic value and market prices of goods and services, including municipal ROW. We have examined documents produced in this case, reviewed other publicly available information relevant to the case, and interviewed City staff. Appendix B lists the material considered as part of our analysis.

II. SUMMARY OF OPINIONS AT THIS TIME

- Charging a fee to access the City's ROW ensures that the ROW will be used efficiently. The closer the fee approximates the relevant market price, the more likely the ROW will be used in an economically efficient manner, which is a fundamental criterion by which economists evaluate the performance of a market and overall social welfare.

- Valuing ROW using comparable transactions is common practice that helps establish a fair market value for ROW.

- TWT and QCC pay fair and reasonable fees to access the City's ROW, and these fees reflect the relevant market value of the ROW.

- Charging in-kind compensation as part of a fair and reasonable compensation package is common practice. TWT and QCC pay fair and reasonable in-kind compensation.

- For access to its ROW, the City does not require compensation from TWT and QCC that is competitively non-neutral or discriminatory.

- IRNE's use of the City's ROW does not constitute unfair competition or antitrust behavior on the part of the City.

- The City holds IRNE to the same standards as it holds other telecommunications firms that use the City's ROW.

- IRNE does not rely on any of the conduit paid in-kind by the Plaintiffs. Conduit paid-in kind by other telecommunications firms amounts to a miniscule proportion of the total value of IRNE and confers no measurable competitive advantage or disadvantage to the City.

- The intergovernmental agreements (IGA) between the City and other jurisdictions to share fiber and other resources do not constitute anticompetitive behavior. Private entities, including telecommunications firms, share resources for a variety of reasons. Telecommunications firms in the Portland market engage in strategic alliances to share ROW access and construction costs. Plaintiff TWT shares ROW access and construction costs in ways similar to the City's alleged anticompetitive behavior.

- IRNE's operation benefits consumers and competition. We know of no evidence to support the Plaintiffs' claim that IRNE's operation represents an abuse of "monopoly control" of the City's ROW.[1]

III. Economic Background

As I understand the Telecommunications Act of 1996, state and local governments have the authority "to require fair and reasonable compensation from telecommunications providers, on a competitively neutral and nondiscriminatory basis, for use of public rights-of-way . . ." (Sec. 253 (c)). In this section I describe economic concepts relating to compensation for use of ROW and competition.

A. Compensation for Use of Public Resources

The Telecommunications Act's provision allowing compensation for use of public ROW is consistent with the economic principle of using prices to allocate scarce resources. From an economics perspective, the City's ROW is a scarce resource. In contrast to "free resources," scarce resources do not "exist in such large quantities that they need not be rationed out

[1] *See* Complaint for Declaratory Judgment (First). September 28, 2004. In the matter of Time Warner Telecom of Oregon, LLC and Qwest Communications Corporation v. the City of Portland. Page 10, paragraph 18.

among those wishing to use them."[2] Indeed, congestion in the City's ROW—both above ground and below—illustrates that the City's ROW is scarce.

Economic scarcity, however, encompasses more than a constraint on physical capacity. A resource can be scarce in an economic sense even if it can accommodate all users at a given moment in an engineering sense. For example, if the use of a resource by one party imposes costs on other parties, then it is scarce in an economic sense. This conclusion holds whether the affected party is the City, another user of the ROW (a utility, a commuter, a truck driver or anyone else) or a resident (a home owner whose property is affected by utility facilities in the street).

It is because the City's ROW is scarce that charging for its use makes good economic sense. Economic texts describe a relationship between economic scarcity and economic cost, or opportunity cost:

> "Just as scarcity implies the need for choice, so choice implies the existence of cost. ... A decision to have more of one thing requires a decision to have less of something else. It is this fact that makes the first decision costly."[3]

> "It [opportunity cost] concerns the true economic costs or consequence of making decisions in a world where goods are scarce."[4]

The history of cities throughout the world offers compelling illustrations of economic scarcity, opportunity costs, and efficiency in the development of ROW.[5] Examples of cities in

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[2] Samuelson, Paul A. and William D. Nordhaus. 2001. *Economics*, 17th Edition. New York: McGraw-Hill. Page 765. For other authors expressing the same concept, see Hall, Robert E. and Marc Lieberman. 1998. *Microeconomics: Principles and Applications*. Cincinnati, OH: South-Western College Publishing. Page 483; O'Sullivan, Arthur and Steven M. Sheffrin. 2001. *Microeconomics: Principles and Tools*, 2nd Edition. Upper Saddle River, NJ: Prentice Hall. Page 2; Parkin, Michael. 1998. *Microeconomics*, 4th Edition. Reading, MA: Addison-Wesley. Page 42; Tregarthen, Timothy and Libby Rittenberg. 2000. *Microeconomics*, 2nd Edition. New York: Worth Publishers. Pages 3-4.

[3] Lipsey, R., et al. 1990. *Microeconomics,* 9th Edition. New York: Harper & Row, Publishers. Page 4. For other authors expressing the same concept, see Nicholson, Walter. 2000. *Intermediate Microeconomics*, 8th Edition. Fort Worth, TX: The Dryden Press. Page 17; O'Sullivan, Arthur and Steven M. Sheffrin. 2001. Cited previously. Page 24; Parkin, Michael. 1993. *Macroeconomics*, 2nd Edition. Reading, MA: Addison-Wesley. Page 10; Tregarthen, Timothy and Libby Rittenberg. 2000. Cited previously. Page 5;

[4] Samuelson, Paul A. and William D. Nordhaus. 1992. *Economics,* 14th Edition. New York: McGraw-Hill. Page 131. For other authors expressing the same concept, see Hall, Robert E. and Marc Lieberman. 1998. Cited previously. Page 18; McConnell, Campbell R. and Stanley L. Brue. 1996. *Economics*, 13th Edition. New York: McGraw-Hill, Inc. Page 26; Parkin, Michael. 1998. Cited previously. Page 42; Tregarthen, Timothy and Libby Rittenberg. 2000. Cited previously. Page 5.

[5] For various historical descriptions of the development of streets and rights of way, see Abbott, Carl. 1983. *Portland: Planning, Politics, and Growth in a Twentieth-Century City*. Lincoln, NE: University of Nebraska Press; Baldwin, Peter C. 1999. *Domesticating the Street: The Reform of Public Space in Hartford, 1850-1930*. Columbus, OH: Ohio State University Press. Pages 201-203, 207-208; Barrett, Paul. 1983. *The Automobile and Urban Transit: The Formation of Public Policy in Chicago, 1900-1930*. Philadelphia, PA: Temple University Press. Pages 13-14, 49-50; Bridenbaugh, Carl. 1938. *Cities in the Wilderness: The First Century of Urban Life in America 1625-1742*. New York: Alfred A. Knopf. Pages 153-154, 159, 317; Hood, Clifton. 1993. *722 Miles: The Building of the Subways and How They Transformed New York*. New York: Simon & Schuster. Page 84; Pierce,

which I have observed such scarcity and opportunity costs firsthand include Amsterdam, Berlin, London, Rome, Tokyo, Boston, New York, Chicago, San Francisco, Portland (Oregon), Seattle, Vancouver (B.C.), Lima (Peru), Nairobi (Kenya), and Colonia (Yap).

Occupying space in the ROW precludes the City or others from using that same space now and in the future. That is, the three-dimensional space occupied by a given conduit obviously cannot be occupied by another conduit.[6] Also, depending on the specifics of the use, the installation, the maintenance, and the replacement of any given facility in the ROW may create problems for and impose costs on the City and on other users of the ROW.

As applied to the City's ROW, today's scarcity and the resulting opportunity costs will persist tomorrow. That is, today's scarcity manifests itself in those many locations in which the use of the ROW for one service inhibits the use of the ROW or other properties for other services by the same or other users. Clearly, that scarcity and the associated negative, spill-over effects will persist into the future, unless the City experiences a net decrease in ROW use—a result no one has predicted. The negative effects may include increased excavation or construction costs, increased costs associated with design and planning, costs associated with loss-of-service attributed to construction accidents or other damage to services in the ROW, increased travel time for vehicular traffic on the ROW, and lost revenues for business whose customers are inconvenienced by ROW construction.

Like other real-estate assets, the City's ROW yields value to the users of the ROW. Like other real-estate owners, the City charges for use of its ROW. In an economy based on competition, producers and owners of goods and services with economic value typically do not give them away free. In economic markets, prices serve as signals that help society put its resources to efficient use.[7] Not charging for use of the City's ROW would treat it as if it were a free good with no economic value. "A true 'free good' is one which is not scarce... Examples of free goods are rare and perhaps becoming rarer still—sunshine in the Sahara Desert provides one example."[8]

Bessie Louise. 1937. *A History of Chicago: Volume I*. New York: University of Chicago Press. Pages 96, 336; Pierce, Bessie Louise. 1937. *A History of Chicago: Volume II*. New York: University of Chicago Press. Page 325; Quaife, Milo M. 1923. *Chicago's Highways Old and New: From Indian Trail to Motor Road*. Chicago, IL: D. F. Keller & Co. Pages 53-54, 60; Thwing, Anne Haven. 1920. *The Crooked and Narrow Streets of Boston: 1630-1822*. Boston: New England Historic Genealogical Society. Electronic Version; Whitehill, Walter Muir. 1968. *Boston: A Topographical History*, 2nd Edition. Cambridge, MA: The Belknap Press of Harvard University Press. Page 8.

[6] This concept is distinct from the concept of multiple parties sharing a particular fiber or conduit.

[7] *See,* for example, Byrns, Ralph T. and Gerald W. Stone, Jr. 1992. *Economics,* 5th Edition. New York: HarperCollins. Page 71; Nicholson, Walter. 1998. *Microeconomic Theory*, 7th Edition. Fort Worth, TX: Dryden Press. Pages 514-515; Pindyck, Robert S. and Daniel L. Rubinfeld. 2000. *Microeconomics,* 5th Edition. Upper Saddle River, NJ: Prentice Hall. Page 590; Samuelson, Paul A. and William D. Nordhaus. 2001. Cited previously. Pages 27, 291.

[8] Pearce, David W. (ed). 1997. *The MIT Dictionary of Modern Economics*, 4th Edition. Cambridge: The MIT Press. Page 163.

Free access to the City's ROW would fail to impose any market discipline on potential users of the ROW. For example, a price of zero would send an inaccurate signal of the value of the ROW to potential users. Charging a fee helps ensure that the ROW will be used efficiently, that is, that the ROW will not be misused or wasted. Furthermore, the closer the fee approximates the relevant market price, the more likely the ROW will be used in an economically efficient manner, a fundamental criterion by which economists evaluate the performance of a market and overall social welfare.

B. Competitively Neutral and Nondiscriminatory

As I understand, the Telecommunication Act prohibits compensation for the use of ROW that is competitively non-neutral and discriminatory. As a general matter, a fee is nondiscriminatory if telecommunications providers using the ROW in similar ways, under similar circumstances, pay similar fees. Companies differ. Not all telecommunications providers use the ROW in the same way to access customers. For example, local telephone companies providing service via their own wired facilities make extensive use of ROW to access customers. A wireline company may have hundreds or thousands of miles of fiber in a ROW. Wireless companies, however, do not occupy space in the ROW in the same way. A wireless company may not own any facilities or equipment in the ROW, or place only a minimal amount of facilities in the ROW. One could reasonably distinguish among those providers for the purpose of arriving at compensation for access to the ROW.

In addition, economic conditions change over time. All else equal, providers that enter the market at different points in time face different economic conditions. In a competitive market, such providers would likely face different costs for the resources they use. Likewise, it would not necessarily be either discriminatory or non-neutral for the details of the compensation packages between each of such providers and the City to differ.

While in theory one might posit a single fair and reasonable price for a good, in practice it does not happen. There is a range of prices that a seller could charge without exceeding levels that would be considered fair and reasonable. As I understand, some providers in Portland provide some of their compensation in the form of in-kind payments. As I describe in Section IV, such arrangements are not unusual. In some cases, a municipality may even choose to lease ROW space at no charge in order to obtain other perceived benefits—even when charging something would be fair and reasonable.

C. Calculating Fair Market Value Using Comparable Transactions

Unlike residential or commercial real estate, any given market for a municipal ROW has relatively few transactions and private companies have strong (and reasonable) incentives not to publish the results of their transactions involving ROW. Given these constraints, the study of comparable transactions has become an established practice for valuing ROW.[9]

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[9] *See*, for example, Fitzgerald, Shawna. 2005. *Review of Fiber Optic Right of Way Pricing*. Prepared for the City of Portland. August 31. Page 6; National Oceanic and Atmospheric Administration (NOAA). 2002. *Final Report: Fair Market Value Analysis For A Fiber Optic Cable Permit in National Marine Sanctuaries*. NOAA, National Ocean Service, National Marine Sanctuary Program. August; U.S. Department of Justice. 2001. *Uniform*

The degree of similarity between the comparable transactions and the ROW at issue helps specify the high and low measures of fair market value.[10] Fitzgerald describes some of the factors to consider when setting rates to access a municipal ROW.

> "Several distinctions can be made for the wide range for [ROW] rates, including the level of services and security provided, location, and the date the [ROW] policy or contract was signed. Also, the ability of government organizations to set fees, unfettered by political interference, is another important factor in [ROW] rents. However, the issue that seems to have the greatest impact is the level of sophistication and information held by both buyers and sellers."[11]

Fitzgerald's last point on the amount of information available to the two interested parties, speaks to the importance of considering relevant information held by the municipality and by the telecommunications firm or firms. Specific to the case at hand, the City lists the details of its ROW fees on its web site. QCC and TWT can access this information. Knowing what QCC and TWT pay to access other municipal ROW would provide information relevant to the deliberations of the fair-market value to access the City's ROW. The existing ROW agreements between the City and QCC and TWT also provide relevant information.

IV. The City's ROW Fees Make Economic Sense

As I understand, TWT has access to ubiquitous ROW, i.e., ROW throughout the City, and the City charges TWT 5 percent of gross revenues plus one or two ducts for the City's use. As I understand further, QCC has access to only a limited section of the City's ROW, and the City charges QCC approximately $3 per linear foot plus some ducts for the City's use. From an economic perspective, based on the information available, I find neither type of fee unfair, unreasonable, discriminatory, or competitively non-neutral. In this section I describe several methods for calculating the value of ROW, and then I describe my evaluation of the City's ROW fees.

A. A Number of Acceptable Methods Exist for Calculating the Market Value of ROW.

The appraisal literature describes a number of methods for calculating the market value of ROW. These methods include calculating market value based on similar transactions, which appraisers call "comparables." I describe four methods.[12]

Appraisal Standards for Federal Land Acquisitions. http://www.usdoj.gov/enrd/land-ack/yb2001.pdf accessed August 29, 2005.

[10] Ring, A. 1970. *The Valuation of Real Estate*. Prentice Hall. In, Quan, D. and J. Quigley. 1989. "Inferring an Investment Return Series for Real Estate from Observations on Sales." *Journal of the American Real Estate and Urban Economics Association*, 17(2); and U.S. Department of Justice. 2001. Cited previously.
[11] Fitzgerald, Shawna. 2005. Cited previously. Page 29.

[12] NOAA. 2002. Cited previously. Pages 7-13.

1. Land-based appraisals: Analysts calculate the value of a ROW based on the value of land adjacent to the ROW. This is sometimes referred to as the "across-the-fence" (ATF) method. A variation on the ATF method acknowledges that because a ROW provides a continuous corridor, a ROW has a higher value than the disparate, unassembled adjacent parcels. This corridor value can exceed the ATF value by a factor of six or more.

2. The willing-buyer-and-willing-seller method: Analysts seek to replicate market negotiations over the value of the ROW. The seller considers his or her costs, including the value he or she could earn from other uses of the land. The buyer considers the income-generating potential of the ROW and the costs of alternative routes.

3. Income-based methods of valuation: Analysts take as given that a variety of assets contribute to a firm's income or value. A ROW may be one of many income-generating assets from which a firm would expect to earn a reasonable return. The analysts base the market value of the ROW on the return the asset generates for the firm.

4. The comparable-transactions method: Analysts base the market value of ROW on the sales of similar ROW. Information on most ROW transactions between private entities remains confidential. More publicly available information exists on ROW agreements between municipalities and private firms that want access to municipal ROW.

As I describe in subsections B, C, and D, the City's ROW fees are consistent with generally accepted valuation methods, and they make economic sense.

B. A ROW Fee Based on a Percentage of Gross Revenues Is an Accepted Method of Estimating a Fair Market Price for Using ROW

Imposing a fee that is a percent of gross revenues is a reasonable way to price the ROW. Furthermore, given the information available, it meets the generally accepted standard in economics for efficient compensation in exchange for goods or services, namely, a price that reflects the value of the good or service to the buyers and sellers. ROW, like other real-estate assets, convey value to its users. TWT's use of the City's ROW conveys or adds value to TWT.

This method is straightforward and has low transaction costs. That is, both the City and TWT can resolve the amount owed with minimal accounting and auditing. In contrast, calculating a per-foot fee for a provider with access throughout the City would be time-consuming, costly, and generally inefficient. Moreover, a percentage-based fee is convenient because the fee directly tracks the amount of business passing through ROW facilities. Therefore, the fee reflects a reasonable and up-to-date measure of the value TWT receives from using the City's ROW.

The City's annual ROW fee charged to TWT is 5 percent of gross revenues. A host of similar transactions demonstrates that the City's fee is within a range of reasonable fees. For example, I understand that there are approximately eleven other local-exchange carriers that operate in the City, each of which has an agreement with the City that includes the 5-percent fee that TWT challenges.[13] Moreover, other occupants with ubiquitous access to the City's ROW generally pay 5 percent of gross revenues. Specifically, Northwest Natural, Pacific Power and Light, and Portland General Electric, which also occupy the City's ROW, each pays a 5-percent fee to the City.[14]

In addition, Qwest and other telecommunications carriers pay a 5-percent franchise fee in Fargo, North Dakota;[15] Henderson, Nevada;[16] and Wichita, Kansas.[17] In Salt Lake City, Utah, Qwest pays a 2-percent franchise fee and a 4-percent utility tax.[18] It is not by chance that the City charges a percentage rate in line with percentage rates charged elsewhere. The similarity in rates reflects similarities across urban areas. Such similarities emerge in the field of urban economics, which involves the study of common economic forces affecting urban economies. In that spirit, considering the fees paid by carriers to other municipalities provides meaningful information that can be used to judge the reasonableness of fees paid by carriers to the City.

A 5-percent fee seems easily in line with the percentage rents paid in the retail industry. For example, operators of movie theatres pay an average of between 8 percent and 12 percent of gross receipts. Restaurants pay, on average, between 5 percent and 7 percent. These amounts are usually on top of a base rent, which TWT does not have to pay to the City.[19]

Based on the foregoing information and on my professional knowledge of demand, supply and markets, I conclude that the 5-percent fee imposed in the City's franchise agreement with TWT is neither unfair nor unreasonable compensation for placing facilities in the City's ROW.

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[13] According to information posted on the City's Cable Communications and Franchise Management website (http://www.portlandonline.com/cable/index.cfm?c=33150), accessed August 17, 2005, the other local exchange carriers are AboveNet, All-Phase Utility, Electric Lightwave, Inc., Enron Broadband Services, Integrated Regional Network Enterprise, Level 3, MCI Metro, McLeod USA, ONFiber, TCG Oregon, and XO Communications.

[14] The utilities are listed on the City's Cable Communications and Franchise Management website, cited previously. According to Chapter 7.14 of the Portland City Code, electrical and gas utilities pay 5 percent of gross revenues and other utilities pay the City 5 to 7.5 percent of gross revenues.

[15] Fargo City Code. 2000. Article 24-03: Grant of Access and Use of Public Rights-of-Way. Page 24-85.

[16] Henderson Municipal Code. Section 4.05.020(B)(1)(a). http://municipalcodes.lexisnexis.com/codes/henderson/_DATA/TITLE04/Chapter_4_05_BUSINESS_LICENSE_FEE_/4_05_020_Public_utility_licens.html accessed August 30, 2005.

[17] Wichita City Code. Section 3.93.004: Franchise and License Fees. Subsection 4.2: Franchise Fees. http://www.wichitagov.org/CityCode/Default.htm?code=3980 accessed August 30, 2005.

[18] Torrence, Rachel. Deposition Transcript. November 25, 2002. In the matter of Qwest Corporation v. City of Globe, Arizona. CIV 01-2500. Page 31.

[19] Senn, Mark A. 2000. *Commercial Real Estate Leases: Preparation, Negotiation, and Forms*, 3rd Edition. Gaithersburg, MD: Aspen Law and Business. Section 6.06(C).

C. A ROW Fee Based on Feet of Installed Conduit Is an Accepted Method of Estimating a Fair Market Price for Using ROW

Calculating ROW fees on a per-linear-foot basis is another accepted method of estimating the market value for using the ROW. Such a method is especially useful where providers occupy limited portions of the ROW. In a survey of different fee structures used by municipalities to charge for ROW use, Bucaria and Kuhs found that charging based on linear feet of ROW is a fee structure commonly used by municipalities.

> "The fact that there are established telecommunications corridor right-of-way rental markets allows some direct rental rate comparisons to be made, often in terms of dollars paid annually per lineal foot of right of way, conduit, or cable."[20]
>
> "Linear measure for both sales and rental comparison purposes are comparison approach methods. They are well accepted by both industry and property owner representatives. Linear measure data is relatively plentiful. Accordingly, use of this method of market comparison is valid and useful in telecommunications corridor valuation situations."[21]

Bucaria and Kuhs also note that the rate per linear foot may vary depending on the number of lines of fibers installed and the diameter of the conduit.

Calculating the market value of ROW access using a per-foot fee for providers occupying limited and distinct routes in the ROW has advantages in that it is straightforward and has low transaction costs, facts that seem reasonable for a City to consider in establishing a ROW fee. Because QCC needs access to only a limited stretch of the City's ROW rather than access to all of the City's ROW, both the City and QCC can resolve the amount owed with minimal accounting and auditing.

The City's annual ROW fee to QCC is approximately $3.00 per linear foot. I understand that there are approximately ten other point-to-point carriers that operate in the City, each of which also has an agreement that includes a $2-$3 fee per linear foot with an annual increase based on the consumer price index.[22, 23]

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[20] Bucaria, Charles and Robert Juhs. 2002. "Fiber Optic Communication Corridor Right-of-Way Valuation Methodology." *The Appraisal Journal.* April. Page 138.

[21] Bucaria, Charles and Robert Juhs. 2002. Cited previously. Page 143.

[22] As I understand, the City's per-foot fee is nearly the same across all carriers, and it is based on a rate of $2 per linear foot established in approximately 1990 with subsequent increases tied to increases in the consumer price index. As I understand further, in setting its rate the City considered the value of its ROW and examined rates in cities in the Northwest and in other areas of the U.S. Slight differences in the fees listed in the agreements are the result of the differences in the years in which each agreement was signed. In addition, there may be differences due to the time between the date that the agreements were signed and the date that the agreements became effective. Soloos, David, Assistant Director, Office of Cable Communications and Franchise Management, City of Portland. Personal Interview. August 30, 2005.

[23] According to information posted on the City's Cable Communications and Franchise Management website (http://www.portlandonline.com/cable/index.cfm?c=33150), accessed August 17, 2005, the other point to point

In addition, information on comparable transactions from other areas yields a range of fees from approximately $1.80 to $5.00 per linear foot. As I stated in subsection B, when calculating a fee in one area, considering the fees charged in other areas is a valid approach.

Macon, Georgia charges $4.50 per foot; Savannah, Georgia and Atlanta, Georgia charge $5.00 per foot; Gainesville, Florida charges $4.00 per foot;[24] Huntsville, Alabama charges Level 3 $4.50 per foot for the first five years, increasing $1.50 per foot the next five years, and increasing an additional $1.50 per foot the next five years;[25] Burbank, California charges Level 3 $3.99 per foot;[26] Glendale, California charges Level 3 $1.80 per foot;[27] Rialto, California charges Level 3 $2.00 per foot;[28] and San Bernardino County, California charges Williams Communications $3.00 per foot.

Also, the Fitzgerald Report describes a number of contracts between public entities and a variety of parties for occupying space in the ROW or in other similar resources. Per-linear-foot charges are common when entities want to occupy a finite number of feet. The annual per-linear-foot charges range from less than $1.00 to over $100 per foot, where the higher charges are either for the placement of multiple ducts or fibers or for occupying space in resources such as elevated highways or the New York/New Jersey Lincoln Tunnel.[29]

Based on the information that is available to me at this time and on my professional knowledge of supply, demand and markets, I conclude that charging for ROW use based on a fee per linear foot of ROW occupied is an acceptable method of calculating the fee for using the City's ROW, especially in cases such as this where the telecommunications firm occupies a limited portion of ROW.[30] Furthermore, the list of fees above indicates that the

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carriers are Tyco Networks (U.S.), Inc. 360 Networks, AT&T Long Distance, Broadwing Communications, FTV Communications, PT Cable, Sprint Communications, WCI Cable, WilTel, WorldCom Network Services, Inc.

[24] We obtained information on comparator fees in Georgia and Florida from a personal interview staff in the City of Huntsville, Alabama. We acquired information on the comparator fees in California from an appraisal by Jones, Roach & Caringella, June 12, 2003 and other documents where noted. I have excluded the City of Escondido, which was included in the appraisal, as a comparator because it has no annual fee. This suggests either that Escondido's ROW is not a scarce resource or that through ignorance or non-market constraints, Escondido has offered its ROW free of charge. Any of these conditions disqualifies Escondido as a relevant comparator for the dispute at hand.

[25] An Ordinance Respecting the Use of the Public Rights-of-Way in the City of Huntsville, Alabama by Level 3 Communications, LLC. Ordinance No. 00-819. October 12, 2000. Section 8.1.

[26] Encroachment Permit Agreement between Level 3 Communications, LLC and the City of Burbank. October 12, 2000.

[27] Telephone Corporation Encroachment Permit Agreement between Level 3 Communications, LLC and the City of Glendale.

[28] Telecommunications Encroachment Permit Agreement between Level 3 Communications, LLC and the City of Rialto. October 16, 2000.

[29] Fitzgerald, Shawna. 2005. Cited previously. Page 11.

[30] Edsall, Gary, of the City of Glendale. Personal Interview. July 17, 2003; and Goulding, Diane, of the City of Burbank. Personal Interview. July 17, 2003.

City's fee falls in the relevant range of comparable fees. Therefore, I conclude that the fee of approximately $3.00 per linear foot imposed in the City's franchise agreement with QCC is not unfair, unreasonable, discriminatory or competitively non-neutral.

D. In-Kind Compensation Is Acceptable for the Use of ROW

The franchise agreements also include in-kind compensation as part of the fee for using the City's ROW. That is, in addition to a monetary payment, both TWT and QCC must provide ducts for the City's use. In an economic sense, the monetary payments and the in-kind payments together comprise the price of using the ROW. From the information we have examined, such complementary transactions within agreements occur frequently. I also understand that they aren't unusual in negotiated agreements between telecommunications companies and municipalities. The ROW agreement between the City of Huntsville, Alabama and Level 3, for example, provides fiber and manholes for the City of Huntsville's use.[31] The Fitzgerald Report describes a number of contracts that incorporate in-kind payments as part of the compensation for use of ROW and other similar resources.[32]

If the City required additional monetary compensation instead of in-kind payments, it could purchase its own duct. It is likely, however, that the in-kind arrangement is comparatively more beneficial to both QCC and TWT. That is, the providers may be able to provide the City with ducts at a lower cost than the monetary fee the City would otherwise require. I conclude that the in-kind duct requirement is part of a reasonable compensation package and is neither discriminatory nor competitively non-neutral.

E. The City's Fees Are Neither Discriminatory nor Non-Neutral

I do not find that the City's different compensation packages for different types of providers amount to discrimination or bias. As I have described, TWT and QCC use the ROW differently. Even among providers that use the ROW in similar ways, differences from agreement to agreement are to be expected. That is, even within the same market, competitors generally do not face identical economic conditions. Some of the differences in economic conditions stem from differences among the competitors themselves. Other differences stem from the point in time that transactions occur. Based on my review of the fees at issue in this case, I find that providers that use the ROW in similar ways are charged similar fees. I do not find evidence that the fees are discriminatory or non-neutral or that the fees tend to favor or disfavor any competitor over any other.

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[31] An Ordinance Respecting the Use of the Public Rights-of-Way in the City of Huntsville, Alabama by Level 3 Communications, LLC. Ordinance No. 00-819. October 12, 2000. Section 8.7.

[32] Fitzgerald, Shawna. 2005. Cited previously. Attachment A. Fitzgerald lists a number of agreements that include the provision of fiber or duct in New York State, Massachusetts, Wyoming, Kansas, Maryland, New Jersey, Rhode Island, and Wisconsin.

V. OTHER ISSUES

A. Competitive Differences

The City's Integrated Regional Network Enterprise (IRNE) provides dial-tone (voice) and data-transmission services to City bureaus, and data-transmission services to jurisdictions in the area (e.g., the Port of Portland, Portland Public Schools, and Multnomah County).[33] As I understand, IRNE does not provide any telecommunications services to residences or private businesses.[34]

The Plaintiffs claim that the City, through IRNE, competes unfairly with QCC and TWT. The Plaintiffs' complaint states, in part,

> "[A]s a condition to using the public ROWs, the City has improperly required the Carriers to provide the City with free or below cost use of conduit, fiber and related equipment and facilities. The City in turn is using these same valuable network assets to operate its own telecommunications company in competition with the Carriers — acting through a City entity known as the Integrated Regional Network Enterprise ('IRNE')."
>
> "[T]he municipality [City of Portland] is using its control over access to ROWs to unfairly advantage <u>*itself*</u> in its role as a telecommunications provider."[35] [emphasis in original]

In economics, a competitive advantage, as alleged by the Plaintiffs, does not constitute unfair competition. In fact, many firms, many competitors in the same market, have different competitive strengths and weaknesses. A business is made up of a composite of attributes that affect its performance in a market including: access to capital, raw materials or other inputs; production functions or manufacturing processes; the quality of its labor force; and customer relations. All competing firms in a market have their own unique combination of attributes. Some firms may have better, i.e., less expensive, access to capital. Others may have a better-trained work force. Firms survive by maximizing their strengths and minimizing or mitigating their weaknesses.

The economic literature describes these inherent differences among firms and how they can affect a firm's costs and profits.

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[33] City of Portland's Concise Statement of Material Facts Not In Dispute. April 2005. In the matter of Time Warner Telecom of Oregon, LLC and Qwest Communications Corporation v. the City of Portland. Page 2, paragraph 8.

[34] Defendant's Response To Plaintiffs' First Set of Written Discovery. January 5, 2005. In the matter of Time Warner Telecom of Oregon, LLC and Qwest Communications Corporation v. the City of Portland. Response to Interrogatory No. 17, pages 14-15.

[35] Complaint for Declaratory Judgment (First). Cited previously. Pages 2-3.

"[T]he rate of profit [among firms] may vary ... from unit to unit according to the differences in their capital-structure, particularly the relationship between the 'owned' and 'borrowed' capital ..."[36]

"There are at least four major causes of lower costs:

- A firm may be more efficient than its rivals. For example, it may have better management or better technology that allows it to produce at lower costs. Such a technological advantage may be protected by a patent.
- An early entrant to a market may have lower costs from having learned by experience how to produce more efficiently.
- An early entrant may have had time to grow large optimally ... so as to benefit from economies of scale. By spreading fixed costs over more units of output, it may have lower average costs of production than a new entrant could instantaneously achieve.
- The government may favor the original firm. The U.S. Postal Service does not pay taxes or highway user fees, which reduces its cost relative to that of competing package delivery services."[37]

"What factors could lead to a gap between the average costs of established firms and potential entrants? Firms already in the industry may control a crucial input, may be able to borrow investment funds at lower interest rates than potential entrants, or they may have access to superior production technologies, perhaps protected by patents. They may have built plants in the most desirable locations, forcing new firms to ship raw materials or the final product greater distances. Also entrants may have to pay more for scarce inputs, such as raw materials, managerial talent, or research personnel."[38]

"The first mover advantage within an industry may make it possible to build brand loyalty, profit from early experience,

[36] Mehta, M.M. 1950. "Measurement of Industrial Efficiency." *The Economic Journal*, 60(240): 827-831. Page 828.

[37] Carlton, Dennis W. and Jeffrey M. Perloff. 1999. *Modern Industrial Organization*, 3rd Edition. Reading, MA: Addison-Wesley. Pages 110-111.

[38] Waldman, D. and Jensen, J. 1998. *Industrial Organization: Theory and Practice*. Reading, MA: Addison-Wesley. Page 110.

> gain control over scarce assets and create switching costs that bind consumers to the company."[39]

In the case at hand, competitive differences arise in part because of the contrasting objective functions between the Plaintiffs, profit-maximizing entities, and the City, a municipal entity that serves the interests of all Portlanders. As I understand, IRNE, as a municipal entity, operates at a competitive disadvantage to the Plaintiffs in a number of areas including:

- Municipal planning, decisionmaking, managing data, allocating funds, etc., take place in an open, public, and time-consuming manner. Private firms operate in relative secrecy and as a result typically can react more quickly to changing conditions.

- Private firms have access to financing options not available to municipal entities, e.g., stock sales.

- Private firms may provide a wide-range of telecommunications services. IRNE provides only dial-tone service to City bureaus and data-transmission services to City bureaus and to a limited number of other jurisdictions in the area.

- Private firms can increase sales through advertising and marketing. IRNE does neither. In fact, as I understand, IRNE takes a passive approach to providing its services. For example, IRNE has no influence over the number of phone lines used by the City's accounting department. The accounting department makes that determination without input from IRNE.[40]

- IRNE does not provide voice or data service to any residence or business.[41]

- The prices for IRNE's services to City bureaus cannot increase beyond the rate of inflation.[42] Individual private firms do not face such a constraint on their pricing decisions.

Market participants bring with them their own, unique mix of competitive strengths and weaknesses. The local Portland market for telecommunications services is no different. The Plaintiffs emphasize one of the City's advantages—it controls the ROW. This advantage, however, does not constitute a barrier to entry or some other form of antitrust behavior. The Plaintiffs ignore the City's competitive disadvantages, some of which I describe above.

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[39] Jenssen, Jan Inge. 2003. "Innovation, Capabilities and Competitive Advantages in Norwegian Shipping." *Maritime Policy and Management*, 30(2): 93-106. Page 95.

[40] Gray, Mark, Manager of Communications Operations and Engineering for the City of Portland. Personal Interview. August, 12, 2005.

[41] Defendant's Response to Plaintiffs' First Set of Written Discovery. Cited previously. Response to Interrogatory No. 17, pages 14-15.

[42] Smith, Ralph, of the City of Portland's Office of Finance and Management. Personal Interview. August 5, 2005.

The Plaintiffs' claim regarding the City's competitive advantage ignores the fundamental economic principles that drive competition. Competition does not thrive and grow by *limiting* one party's competitive advantage. Rather than lowering the bar for all sellers of goods or services in a market, competition encourages advantages that benefit the consumer. Such is the case here. As I describe in the last subsection of this report, the City's control of its ROW and the services IRNE provides benefit consumer by providing comparable or superior services at lower rates.

B. QCC and TWT Did Not Build IRNE

The Plaintiffs allege that the City built IRNE using the in-kind payments it received from QCC, TWT, and other telecommunications firms.

> "[T]he City has and is using the valuable network assets it extorted from the Carriers [QCC and TWT] and other service providers to operate its own competing telecommunications company."[43]

> "In addition to providing conduit and fiber, the City has used cash received from franchisees to construct the IRNE. ... As a result, carriers have been forced to build their own competitor."[44]

In previous subsections of this report, I explain the economic rationale for why the in-kind payments made by QCC and TWT to access the City's ROW—a scarce and valuable resource—are economically fair and reasonable. In my research and teaching on the economics of crime, I have never encountered professional economics literature—in either journals or text books—that has equated fair and reasonable pricing with extorting property, funds, patronage or excessive fees.

Based on the information available to us at this time, I find no support for the claim that the Plaintiffs were "forced to build their own competitor." A small percentage of the conduit used by IRNE came from the in-kind component of payments by some franchisees—but the Plaintiffs were not among them, i.e., they provided none of this conduit.[45] Furthermore, telecommunications firms provided none of IRNE's fiber. To the extent it is relevant, the City provided 89 percent of the conduit (and aerial runs) that constitutes IRNE. The City describes the sources of the conduit that IRNE uses.

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[43] Plaintiff Qwest Communications Corporation's Response to City of Portland's First Set of Interrogatories (Nos. 1-15). January 2005. In the matter of Time Warner Telecom of Oregon, LLC and Qwest Communications Corporation v. the City of Portland. Response to Interrogatory No. 2, page 6.

[44] Plaintiffs' Response to Defendant's Motion for Partial Summary Judgment and Motion for Joinder. May 6, 2005. In the matter of Time Warner Telecom of Oregon, LLC and Qwest Communications Corporation v. the City of Portland. Pages 6-7.

[45] Gray, Mark, Manager of Communications Operations and Engineering for the City of Portland. Personal Interview. August, 12, 2005.

> "The physical facilities used by IRNE were contributed by several different sources. Of the segments of conduit and aerial runs connecting the various nodes of IRNE, by segment count approximately 43% were build by the City itself, 38% were built by other public entities (especially the State of Oregon and Tri-Met), 5% were built by the City in cooperation with other public entities, and 3% were constructed by the City in cooperation with private telecommunications providers. Finally, about 11% of the IRNE conduit infrastructure was dedicated to City use by "in-kind" contributions of various City telecommunications franchisees. The City uses no conduit contributed by plaintiffs Time Warner or Qwest to operate IRNE."[46]

Conduit, of course, is only a fraction of the inputs to the construction, operation and maintenance of IRNE. The inputs, in the conventional economic categories of capital, labor, and technology (i.e., knowledge and its applications), include fiber, switches and other equipment as well as labor ranging from the technical and administrative workers to the construction, operation and maintenance workers. Not incidentally, the City Council authorized the sale of $11 million in bonds to build IRNE and make it operational.[47] As I understand, the Plaintiffs did not build IRNE or any part thereof. They contributed none of the inputs—the resources—that constitute IRNE.

C. The Conduit Paid In-Kind Provides the City with No Measurable Competitive Advantage

The Plaintiffs claim,

> "As a result [of in-kind payments of conduit], the City obtains valuable telecommunications network facilities on terms far below their actual cost, while artificially inflating the costs of other service providers that compete with IRNE. Thus, in those markets the City chooses to enter, private telecommunications carriers are unable to provide services because of the City's artificially low prices."[48]

The Plaintiffs' claim, once again, is wrong. The in-kind payments made by the Plaintiffs, as I state above in Section IV.D, represent a portion of the fair and reasonable compensation to access the City's ROW. The terms of the exchange between telecommunications providers and the City reflect market rates to access the City's ROW and do not amount to either a below-cost transaction for conduit or artificially inflating costs to the providers.

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[46] City's Memorandum in Support of Motion for Partial Summary Judgment. Cited previously. Page 6.

[47] City's Memorandum in Support of Motion for Partial Summary Judgment. Cited previously. Page 5.

[48] Plaintiff Time Warner Telecom of Oregon, LLC's Response to City of Portland's First Set of Interrogatories (Nos. 1-15). January 14, 2005. In the matter of Time Warner Telecom of Oregon, LLC and Qwest Communications Corporation v. the City of Portland. Response to Interrogatory No. 2, page 5.

To put the Plaintiffs' claim in perspective, it helps to consider the actual costs involved. First, IRNE's production function—to use the jargon of economics—involves construction, operation and maintenance. Second, focusing for the moment on construction alone, an analysis conducted by the City's consulting telecommunications engineer shows that the cost of labor and materials to install a 2-inch conduit represents less than 5 percent of the total cost of excavating a trench, installing conduit, and filling in and paving over the trench.[49] As I understand, once a trench is opened, installing one, two, or more, 2-inch conduits represents a small marginal increase in the overall cost of trenching. Third, the conduit provided by other telecommunications companies—none of which is either of the Plaintiffs'—constitutes 11 percent of the total amount of conduit used by IRNE.[50] Fourth, it follows then that telecommunications companies provided, as part of their fair and reasonable payments for the ROW, 0.55 percent (5% of 11% = 0.55%) of the excavation-installation-related construction specific to IRNE's conduit. Fifth and finally, the labor and materials cost specific to conduit accounts for only a portion of the total cost of IRNE; the total cost also includes other construction costs, and the costs associated with operation and maintenance.

The in-kind payments from telecommunications firms amount to a miniscule proportion of the total value of IRNE and confer no measurable competitive advantage to the City. I repeat, for emphasis and clarity, that the Plaintiffs provided none of the conduit paid in-kind that IRNE uses.

I find no support for the claim that private telecommunications firms have not been able to provide services in the dial-tone (voice) and data-transmission market in the Portland area. In fact, as I understand, QCC still earns approximately $50,000 per year on voice service (telephone) and $50,000 per year on data-transmission services from the City and other IRNE users.[51] QCC also has a pilot project with Portland Public Schools to provide voice over IP (Internet Protocol) services,[52] and the Port of Portland leases two telecommunication lines from Qwest.[53] For its part, IRNE earns approximately $83,000 per year on its data-transmission services provided to other jurisdictions.[54] IRNE, however, provides no telecommunications services to any business or residence.

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[49] Analysis conducted by Erik Orton, Project Manager, Sparling: Orton, Erik. *Incremental Cost Analysis*. Received in an email from Terry Thatcher to Ed MacMullan. August 25, 2005.

[50] Gray, Mark. Declaration. April 2005. In the matter of Time Warner Telecom of Oregon, LLC and Qwest Communications Corporation v. the City of Portland. Page 5, paragraph 16.

[51] Smith, Ralph, of the City of Portland's Office of Finance and Management. Personal Interview. August 5, 2005.

[52] Holstun, S. 2005. Interview with Scott Robinson, Chief Technology Officer for the Portland Public Schools. August 3.

[53] Holstun, S. 2005. Interview with Wayne Splawn, Communication Services Manager for the Port of Portland. August 9.

[54] Gray, Mark. Declaration. Cited previously. Page 4, paragraph 14.

D. Sharing Resources Does Not Constitute Anticompetitive Behavior

The Plaintiffs allege that the intergovernmental agreements (IGA) between the City and each of two other agencies, the Oregon Department of Transportation (ODOT) and Tri-Met, to share fiber and conduit amounts to anticompetitive behavior.

> "[I]t appears ... that the IGA [intergovernmental agreements] ordinances with ODOT, PDOT, and Tri-Met allow the City to construct its [IRNE] network and use those network assets for minimal cost. As a cumulative result of these ordinances telecommunication providers are effectively prohibited from providing telecommunication services in the government and educational market."[55]

> "IRNE also receives conduit through IGAs with other government entities that is not available to other competitors."[56]

The Plaintiffs' claim, once again, is wrong. Sharing resources does not constitute anticompetitive behavior on the part of the City or the other municipal entities. In fact, economic and business literature describes examples of private, profit-maximizing firms such as the Plaintiffs, sharing resources. Local examples include telecommunications firms in the Portland market—competitors in some cases—sharing the cost of constructing a trench through the heart of downtown Portland.[57] Also, TWT, a Plaintiff in this litigation, shares ROW access and construction costs in ways similar to the City's alleged anticompetitive behavior.[58]

Private entities, including telecommunications firms, share resources for a variety of reasons. The economics and business literature describes this type of cooperation as strategic alliances.

> "Companies, both big and small, are teaming up more today than ever before to enhance their competitiveness in the marketplace and keep pace with the rapid changes of technological innovation."

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[55] Plaintiff Qwest Communications Corporation's Second Supplemental Response to City of Portland's First Set of Interrogatories (Nos. 1, 2 and 4). March 16, 2005. In the matter of Time Warner Telecom of Oregon, LLC and Qwest Communications Corporation v. the City of Portland. Supplemental Response to Interrogatory No. 2, pages 7-8.

[56] Plaintiffs' Response to Defendant's Motion for Partial Summary Judgment and Motion for Joinder. May 6, 2005. In the matter of Time Warner Telecom of Oregon, LLC and Qwest Communications Corporation v. the City of Portland. Page 13.

[57] Soloos, David, Assistant Director, Office of Cable Communications and Franchise Management, City of Portland. Personal Interview. August 24, 2005.

[58] Time Warner Telecom Inc. 2004. Form 10-Q. U.S. Securities and Exchange Commission, Washington, D.C. August 9. http://www.sec.gov/Archives/edgar/data/1057758/000119312504135846/d10q.htm#tx86290_6 accessed August 25, 2005. Page 26.

> "A strategic alliance is an arrangement between two companies that combine resources to gain additional business ... It involves two companies that pool together expertise and resources to enter new markets, share financial risks and get products and services to market faster."[59]

> "Although firms gain advantages from possessing idiosyncratic resources ... authors in several research traditions argue that interfirm alliances provide a means of pooling resources held by different firms in order to exploit new business opportunities and to increase the efficiency of existing business activities."

> "The alliances include firms operating in the telecom-electronics, auto, aerospace, and other sectors."[60]

> "[W]ith the exorbitant cost inherent in deploying a new mobile telecommunication network technology, it does no longer appear to be a safe bet for investors that 3rd generation technologies will provide sufficient return on investment. … [W]e identify the possibility to share risks and costs among several participating parties as a viable strategy for telecommunication operators."[61]

> "A ... method which applies only to reciprocal compensation, is called bill and keep or sender keeps all. The underlying theory is that the number of calls exchanged between two networks should be about equal in both directions, so charging is unnecessary."[62]

As I understand, eight telecommunications firms[63] plus PGE shared the cost of constructing a trench in the City ROW through the heart of downtown Portland.[64] The trench, known as the "Level3 trench," provides a local example of telecommunications firms pooling resources

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[59] Isidro, Isabel M. "Small Businesses and the Power of Strategic Alliances." *International Cyber Business Services*. http://www.ecomhelp.com/KB/joint_venture/kb_strategic-alliances.htm accessed August 8, 2005.

[60] Mitchell, Will, Pierre Dussauge and Bernard Garrette. 2002. "Alliances With Competitors: How to Combine and Protect Key Resources." *Creativity and Innovation Management*, 11(3): 203-223. Page 204.

[61] Ericsson, Nilo Casimiro, et al. *Strategies for Pooling Resources to Build Future Telecommunication Networks*. www.itm.mh.se/summerschool/Reports/FinalReportTrack2.pdf accessed August 8, 2005. Page 1.

[62] Jamison, Mark A. (no date). *Incumbent and Entrant Incentives with Network Interconnections: The Case of US Telecommunications*. Working Paper. Page 8.

[63] Level 3, MFN (now known as AboveNet), McLeod, XO, Allphase, PGB (now known as OnFiber), Williams (now known as WilTel), and Adelphia.

[64] Spreadsheet provided by Alan Williams of the Fluor Corporation: Williams, Alan. *Joint Partner Matrix*. Received in an email from Terry Thatcher to Ed MacMullan. August 26, 2005.

in ways that benefit each of them individually. In this case the City, and its residents and businesses, also benefit from a single construction activity, rather than multiple construction projects with associated costs imposed on commercial activity, vehicular traffic and pedestrians.[65]

In another local example of a telecommunications firm benefiting by sharing resources, Electric Lightwave Inc. (ELI) and Northwest Natural Gas Co. (NWNG) developed an agreement to their mutual benefit. ELI paid NWNG a one-time fee of between $9 and $12 per linear foot to install fiber optic cable in abandoned or unused gas pipelines in Portland.[66] As I understand, this fee is much less than what ELI would have paid to design, permit, and construct a trench through the City's ROW. NWNG benefits by earning revenue on abandoned or unused pipeline.

Plaintiff TWT alleges in part that the IGA between the City and other municipal entities to share ROW, conduit and fiber amount to anticompetitive behavior. I note, however, that TWT has similar agreements to share ROW access, fiber capacity and construction costs. TWT describes these agreements in their Form 10-Q filed with the U.S. Securities and Exchange Commission.

> "We [TWT] benefit from our relationship with Time Warner Cable, ... both through access to local rights-of-way and construction cost sharing. We have similar arrangements with Bright House Networks, LLC ... . We have constructed 23 of our 44 metropolitan networks substantially through the use of fiber capacity licensed from these affiliates."[67]

I have seen no information that would lead me to conclude that the City engages in anticompetitive behavior by sharing resources through IGA with other municipal entities.

E. The City Holds IRNE to the Same Standards as Other Telecommunications Firms

The Plaintiffs claim that the City holds IRNE to different standards than other telecommunications firms,

> "The City does not impose the same ROW terms and conditions on its affiliate IRNE that it does on other telecommunications providers. IRNE is not required to compensate the general public for IRNE's share of the cost of managing the City's

[65] Soloos, David, Assistant Director , Office of Cable Communications and Franchise Management, City of Portland. Personal Interview. August 24, 2005.

[66] Fiber Optic Cable Construction and Gas Pipeline Use Agreement Between Northwest Natural Gas Company and Electric Lightwave, Inc. April 29, 1991.

[67] Time Warner Telecom Inc. Form 10-Q. Cited previously. Page 26.

> ROWs or bear the same burdens associated with ROW use that the City has imposed on IRNE's competitors."[68]

As I understand, IRNE obtained a franchise to use the City's ROW and pays the City 5 percent of gross revenues[69] on services provided under Intergovernmental Agreements (IGAs) with other jurisdictions, e.g., Port of Portland, Portland Public Schools, etc.[70]

I also understand that IRNE provides services in-kind to the City in at least two ways: providing engineering and planning services to other City bureaus, and swapping fiber with other jurisdictions. IRNE provides in-kind services to the City when IRNE technicians work with staff from other City bureaus on projects that involve IRNE resources. For example, the City's Bureau of Environmental Services (BES) connects their pump stations using fiber-optic cable. BES pays for the conduit and fiber, while IRNE technicians provide engineering and planning services.[71]

IRNE also provides in-kind services to the City by swapping fiber with other jurisdictions. Under this arrangement, City bureaus have access to fiber owned by Tri-Met or the Oregon Department of Transportation. These jurisdictions, in turn, have access to IRNE's fiber.

F. By Matching or Underpricing the Competition, the City Does Not Engage in Anticompetitive Behavior

The Plaintiffs allege that IRNE purposely set prices below that of private providers in order to capture market share.

> "In order to gain market share, the City deliberately priced its services to undercut private carriers: ..."[72]

If we assume, for the sake of argument, that the Plaintiffs' allegations are true, as economists we find no cause for concern regarding anticompetitive behavior on the part of the City. Competitors seeking to underprice their competition is what we as a society expect and want from our markets. Wal-Mart is a good example. And Wal-Mart, of course, is hardly unusual.

Underpricing one's competitors is not anticompetitive. We have seen no evidence that the City engages in predatory pricing or other anticompetitive behavior regarding the pricing

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[68] Complaint for Declaratory Judgment (First). Cited previously. Page 9, paragraph 16.

[69] Gray, Mark. Declaration. Cited previously. Page 3, paragraph 8.

[70] City of Portland's Concise Statement of Material Facts Not In Dispute. Cited previously. Page 2, paragraph 8; and Smith, Ralph, of the City of Portland's Office of Finance and Management. Personal Interview. August 5, 2005.

[71] Smith, Ralph, of the City of Portland's Office of Finance and Management. Personal Interview. August 5, 2005.

[72] Plaintiffs' Response To Defendant's Motion For Partial Summary Judgment And Motion For Joinder. Cited previously. Page 9.

for IRNE's services. As I describe in the following subsection, consumers benefit from IRNE's lower prices, which is what we should want and expect from our producers and suppliers, whether they are private or public entities.

G. IRNE's Operations Benefit Consumers and Competition

The Plaintiffs allege that IRNE's operations harm consumers and competition in the market for telecommunications services.

> "[T]he City's actions ... harm the public interest in telecommunications competition in the Portland metropolitan area. The City is exploiting its monopoly control over public ROWs to effectively prohibit normal competition in the markets that the City serves through IRNE."[73]

I find no basis in fact for the Plaintiffs' allegations. Based on our review of the available information and on my professional knowledge of demand, supply and markets, I conclude that IRNE's participation in the market helps promote the public interest and helps protect consumers. IRNE also helps promote competition in the market for telecommunications services in the Portland area.

We must distinguish between the type of "monopoly control" or, more to the point, "the exercise of monopoly control" that violates antitrust laws and harms consumers, from the control that owners have over their property. A homeowner owns his driveway and a factory owner owns her production facility. In these cases, ownership does not constitute anticompetitive behavior in an economic sense, even though the homeowner could lease his driveway to a neighbor and the factory owner could lease her facility to a former competitor. Likewise, the fact that the City controls the ROW does not mean that it exercises monopoly control over the ROW.[74]

The U.S. Federal Trade Commission (FTC) and U.S. Department of Justice (DOJ) describe the necessary (though not sufficient) steps that Plaintiffs should take when making a claim of monopoly power.[75]

- Identify the relevant product, the good or services, at issue

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[73] Complaint for Declaratory Judgment (First). Cited previously. Page 10, paragraph 18.

[74] Not incidentally, the existence of a monopoly in the context of ROW is itself not bad and whether the ROW is owned by the City, another public entity, or a private firm, the monopoly would still exist. For my reasons for these statements, see Baumol, W. J. and A. S. Blinder. 1991. *Microeconomics Principles and Policy*, 5th Edition. Fort Worth, TX: Harcourt Brace Jovanovich. Pages 215-216, G-2, G-5; Nicholson, Walter. 1998. Cited previously. Pages 546, 569; O'Sullivan, Arthur and Steven M. Sheffrin. 2001. Cited previously. Page G-3; Samuelson, Paul A. and William D. Nordhaus. 1992. Cited previously. Page 166, 224, 339-340, 735, 742, G-7; Stiglitz, Joseph E. 1997. *Economics*, 2nd Edition. New York: W.W. Norton & Co. Pages 351, A10, A15.

[75] U.S. Department of Justice and Federal Trade Commission. 1997. *1992 Horizontal Merger Guidelines [With April 8, 1997, Revisions to Section 4 On Efficiencies]*. U.S. Department of Justice and Federal Trade Commission. http://www.ftc.gov/bc/docs/horizmer.htm accessed June 20, 2005.

- Identify the relevant geography, or the area over which the relevant product is traded
- Calculate the market shares of the relevant product in the relevant geography for all market participants

The Plaintiffs have not taken these steps, and their claim of monopoly power, therefore, lacks the necessary analyses and documentation. For example, the Plaintiffs have not identified the relevant product or relevant geography at issue. Even if the Plaintiffs had conducted studies that include these steps, they must, according to FTC and DOJ guidelines, also prove harm to consumers in the form of restricted access to goods or services, or prices for goods and services that exceed the relevant market rates. The Plaintiffs provide no such analysis. In fact, based on the information available to us at this time and on my professional knowledge of demand, supply and markets, I conclude that IRNE's presence in the market for telecommunication services benefits consumers by providing equivalent or superior services at prices equal to or below its competitors.

Comments from IRNE's customers speak to IRNE's superior services and lower prices, relative to its competitors.

Multnomah County

> "With the greater capacity [available through IRNE], the County was ... able to consolidate data centers and downsize some of their organization, thus saving money."
>
> "Multnomah County chose to contract with IRNE for several reasons including that they were able to purchase more bandwidth for comparable money and IRNE offered greater flexibility in network design and the centralization of data centers."
>
> "The County also believes they benefit from having closer communications with other governmental entities where they can explore common goals. For example, the County is currently looking at IRNE for disaster relief. They are exploring using the Gresham IRNE line to transmit and store data should something happen to the Kelly Building. They believe IRNE will offer even more opportunities in the future."[76]

METRO

> "METRO chose IRNE over other providers because of the flexibility it offers at the Pittock Hotel and for the stability of the system. ... The fact that IRNE is a governmental entity did

[76] Holstun, S. 2005. Interview with staff from Multnomah County. August 4.

influence METRO's decision to contract with IRNE. Biedermann [METRO's Director of Information Technology] feels collective endeavors of governmental entities are very important. The collective endeavor of the various entities to operate IRNE keeps them involved with the exchange of information technology."[77]

Multnomah Education Service District (MESD)

"After entering into their last contract with Qwest, MESD experienced several problems with Qwest. The first of which, Qwest miscalculated the cost of their services and informed MESD that they were running 25-30% over contract. MESD had an extensive list of repairs that Qwest was either slow to fix or simply never addressed."

"MESD contracted with IRNE over another private provider because: 1) they got greater capacity for less money; 2) the reliability of IRNE is much higher; 3) customer services is much better than Qwest; and 4) it is much easier to work with other governmental agencies who understand the needs of government."

"Harrison [MESD Technology Officer] believes IRNE has benefited the MESD and its public purposes. It has created a partnership with other governmental entities and opened the lines of communication between the cities, counties, libraries and other school districts. Because they share common goals, each entity has done better than they could have done individually."[78]

Portland Public Schools (PPS)

"Robinson [Chief Technology Officer for Portland Public Schools] said PPS experienced high failure rates with Qwest, primarily because they have an aging infrastructure."

"Robinson buys from IRNE versus other providers because IRNE offers the bandwidth that PPS needs at an affordable price and because the system is reliable."

"Robinson believes that he could obtain similar services from other providers, but that they would not have the same system architecture and therefore, might not be as reliable. However,

[77] Holstun, S. 2005. Interview with David Beiderman, METRO's Director of Information Technology. August 3.

[78] Holstun, S. 2005. Interview with Eric Harrison, Multnomah Education Service District's Technology Officer. August 4.

he does not believe he could get the same service for IRNE's prices."[79]

Port of Portland

"For purposes of the Port's redundancy needs, Splawn [Communication Services Manager for the Port of Portland] believes there are not a lot of alternatives to IRNE. Qwest is the only private provider that has circuits in the area of the airport, but they have been unwilling to update the circuits to DSL lines."

"The Port primarily contracted with IRNE because they were able to get the redundancy at a reasonable price and they were already a partner in the 800 MHz [radio services for emergency police, fire, and other emergency staff] system. The fact that IRNE is a governmental entity has had the added benefit of helping to expedite things among the agencies."

"Splawn believes the Port benefits from being a part of IRNE in that it has increased interagency cooperation and access to other agencies."[80]

In a deposition taken as part of this case, TWT's vice president and general manager of operations in Portland, Mr. Jon Nicholson, described how IRNE's presence in the market promotes competition and lowers costs for consumers.[81] Mr. Nicholson describes IRNE's beneficial impact on competition and the price METRO paid for their Internet connection:

"[METRO] put out an RFP [Request for Proposals] utilizing an IRNE connection to the Pittock Block,[82] which then opened up that opportunity to a lot of other providers who wouldn't have been able to build into them. In the end they went to the lower cost provider [ELI]."

"If IRNE had not provided a connection for Metro to the Pittock Block, then their options for connectivity directly into their site would have been fairly limited as far as those who actually had the capital and the network to be able to build into there."

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[79] Holstun, S. 2005. Interview with Scott Robinson, Chief Technology Officer for the Portland Public Schools. August 3.

[80] Holstun, S. 2005. Interview with Wayne Splawn, Communication Services Manager for the Port of Portland. August 9.

[81] Nicholson, Jon. Deposition Transcript. March 22, 2005. In the matter of Time Warner Telecom of Oregon, LLC and Qwest Communications Corporation v. the City of Portland. Pages 78-82.

[82] As I understand, the Pittock Block houses Internet provider and other telecommunications services.

"As it was, by being in the Pittock Block and by being able to obtain service from IRNE, it opened up the options substantially for them to various players."

"With their options to go to the Pittock Block as opposed to have to take service at their location, that existing revenue stream went away from me, as well as the future revenue stream that, you know, we would have had a far better shot at if they hadn't been able to get to the Pittock Block."[83]

In this case, IRNE's connection to the Pittock Block's Internet hotel promoted competition for METRO's Internet access and helped match METRO with the low-cost provider. But for IRNE's system, METRO might have continued their relationship with TWT at higher rates.

IRNE benefits the City and the jurisdictions that subscribe to IRNE in ways that QCC or TWT apparently cannot. As described above in the statements by IRNE's customers, the relationship between IRNE and the jurisdictions that receive data-transmission services from IRNE is not limited to the telecommunications vendor and buyer. As I understand, many of the jurisdictions with which IRNE has Intergovernmental Agreements (IGA) for data-transmission services also work with the City on other projects. IRNE's communications services facilitate the exchange of information and data between or among jurisdictions working in common on a project. For example, the Port of Portland and the City may utilize IRNE's data-transmission services as part of their participation in a project on regional transportation. QCC or TWT would have no interest in such a project.[84]

Ed Whitelaw

Ed Whitelaw

9/1/05

[83] Nicholson, Jon. Deposition Transcript. Cited previously. Pages 79-91.

[84] Gray, Mark, Manager of Communications Operations and Engineering for the City of Portland. Personal Interview. August, 12, 2005.

Exhibit 5
Effect on Broadband Deployment of Local Government Right of Way Fees and Practices

Exhibit G

Effect on Broadband Deployment of Local Government Right of Way Fees and Practices

By,

Bryce Ward

July 18, 2011

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I. PURPOSE

In this report, we[1] comment on economic issues of right-of-way (ROW) use raised by the Federal Communications Commission's (FCC) *Notice of Inquiry* (NOI) in the matter of, "Acceleration of Broadband Deployment: Expanding the Reach and Reducing the Cost of Broadband Deployment by Improving Policies Regarding Public Rights of Way and Wireless Facilities Siting." Specifically, we consider whether (a) there is evidence that ROW fees charged by local governments are affecting broadband (BB) adoption or deployment; (b) whether there is reason to believe that fees charged in some locations are likely to impact deployment or adoption in other locations; (c) whether there are bases for setting reasonable market-based fees; and (d) whether there is a reason to be concerned that the fees may reflect monopoly power. These issues are raised by several of the information requests in the NOI[2]:

> *To what extent and in what circumstances are rights of way or wireless facilities siting charges reasonable?*
>
> *What are appropriate criteria for determining the reasonableness of such charges?*
>
> *Are permitting or application fees unreasonable to the extent they exceed amounts that would recover administrative and other specifically identifiable costs?*
>
> *Are "market based" rates for use of public rights of way or publicly-owned wireless facilities sites reasonable?*
>
> *Are market-based rates substantially higher than cost-based rates?*

[1] Bryce Ward Ph.D., directed this analysis. See Appendix A for his vita. ECONorthwest staff, Ed MacMullan, Paul Thoma, and Philip Taylor, worked under Dr. Ward's direction.

[2] FCC. 2011. Notice of Inquiry In the Matter of Acceleration of Broadband Deployment: Expanding the Reach and Reducing the Cost of Broadband Deployment by Improving Policies Regarding Public Rights of Way and Wireless Facilities Siting. WC Docket No. 11-59. April 7. Page 8.

II. Summary of Conclusions

Our analysis of the available data on ROW fees and BB deployment found that ROW fees have no measurable effect on deployment. Areas where local governments' authority to levy fees is strictly limited have the same levels of BB deployment and adoption as areas where local governments have relatively wider latitude to recover fair rents for use of the ROW.

Other factors likely explain the differences in deployment and adoption observed across the country. For instance, the relatively small percentage of communities un-served by BB account for a small percentage of the U.S. population. These communities lack BB services because of their isolated location, far from centers of population and commerce. These communities typically have few residences and businesses dispersed across large geographic areas. The costs of installing BB infrastructure and providing service greatly exceed the revenues that providers can earn on these services. The FCC calculates this gap at over $23 billion. Our analysis shows that limiting or abolishing ROW fees and subsidizing BB in currently un-served areas would likely have no measurable effect on BB penetration into most of these areas. The ROW-savings would be, at most, a small fraction of the required investment.

The literature on BB adoption identifies cost of service as one of the many factors that can influence adoption. The relationship between cost and adoption, however, is complex because of the many factors included in the cost of using or accessing BB service. Even if lower ROW fees were passed onto consumers as lower prices, this would not address many of the relevant costs factors that inhibit BB adoption—such as requiring deposits or long-term contracts, costs of computers and software, price increases after introductory offers expire, and the cost of purchasing BB bundled with other, unwanted services. A large gap exists between what current non-users say they would be willing to pay for BB services, and the maximum cost savings they could expect if providers passed on ROW-fee savings. Limiting or abolishing ROW fees would likely have little effect on BB adoption.

It is even more unlikely that limiting or abolishing ROW fees would have an impact on adoption given that BB providers advertise their, often national, prices excluding taxes, fees, installation costs and other costs. Unless lowering ROW fees in the places they are currently allowed led to changes in the nationally advertised prices, potential new customers would be unlikely to know the extent to which ROW-fee savings would impact the price they pay for BB services.

One argument by private BB providers for limiting or abolishing the ROW fees that they pay local jurisdictions is that the providers would use some of the savings to subsidize BB services in currently un-served or under-served higher cost areas. Even if one assumed that ROW fees drove BB deployment, such voluntary cross subsidization makes no economic sense for profit making firms. Firms allocate capital to investment that will generate the highest returns. It makes no business sense for private communications companies to take savings from not paying ROW fees and using that savings to fund less-profitable operations. More likely the firms would pocket the savings and increase their profits. But, because fees are unlikely to drive deployment, even if we assume that BB providers did distribute ROW-fee savings from one market to another, it would likely have no measurable effect on BB penetration or adoption.

Allowing state and local governments to charge market value for use of public ROW is consistent with the economic principle of using prices to allocate scarce resources. From an economic perspective, a locality's ROW is a scarce resource just as lands—public or private—outside a ROW are scarce. Charging a fee for ROW access helps ensure that the ROW will be used efficiently, that is, that the ROW will not be misused or wasted. Furthermore, the closer the fee approximates the relevant market price, the more likely the ROW will be used in an economically efficient manner, a fundamental criterion by which economists evaluate the performance of a market and overall social welfare.

Reasonable charges for ROW can be established through any number of well-recognized mechanisms, including but not limited to contract negotiations. Local jurisdictions have little incentive to act as monopolists when negotiating or setting ROW fees. Local governments have different goals, responsibilities, and functions than do corporate entities. Localities hold resources—including ROW resources—in trust for their citizens and businesses. The local interest in promoting economic growth and development for residents and businesses disciplines ROW pricing. Also, local governments compete vigorously with one another to attract and encourage deployment of advanced and reliable utilities. Thus, local jurisdictions have a strong incentive not to overprice ROW access: a community that discouraged ROW deployment runs the risk of losing businesses and residents to neighboring communities.

While we find no evidence that a public policy that actually limited existing ROW fees would produce meaningful benefits in increased BB deployment or adoption, such a policy would reduce local revenues. Jurisdictions may be required to recover the lost revenues by raising taxes or fees charged to others. Another response could be to cut services. A locality may be forced to reduce the planning and management actions that help maintain efficient ROW uses. This would allow ROW users to externalize their own costs onto other ROW users. Also, the lack of efficient allocation of ROW resources could drive additional ROW costs onto taxpayers, and adversely affect residents, businesses, and ROW users. In addition, there would be a cost to regulation and compliance that could itself be substantial, and that would add to the negative impact of reducing ROW fees.

Given the absence of obvious, measurable benefits to BB deployment or adoption from regulating ROW fees, together with the prospect of harm to BB consumers, residents, businesses, telecom providers and other ROW users, and additional direct and indirect regulatory costs, it is difficult to find an economic justification for regulating local rights of way charges or practices.

III. No Evidence that ROW Fees Affect BB Deployment or Adoption

Underlying the premise behind FCC's inquiry into ROW fees is the assumption that reducing ROW fees will reduce the operating expenses of BB providers, which will ultimately yield increased BB deployment and adoption. This assumption may have a facial appeal to some. The available facts, however, describe a much more complex relationship between ROW fees and BB deployment and adoption. Our review of the available data does not find evidence to support the hypothesis that abolishing ROW fess would increase BB deployment or adoption. Such an action, however, would likely generate significant costs for a jurisdiction's residents, businesses, telecoms and other ROW users.

A. Do ROW Fees Affect BB Deployment?

Based on our analysis of the available data, we do not find evidence that ROW fees have a measurable impact on BB deployment. If ROW charges reduce BB deployment, areas with ROW charges should have less BB than areas without ROW charges. Our analysis does not find such a relationship. Areas with ROW charges have the same BB deployment rates as areas without ROW charges.

Our results agree with results from the only previous empirical study we found of ROW fees, ROW practices and BB deployment, a study prepared by Dr. Alan Pearce. Dr. Pearce compared competition in communities that charged fees for use of ROW by telecommunications companies, and that regulated use of the rights of way, and those that charged no fees, and had fewer right of way regulations. Dr. Pearce found that charges and regulatory practices did not deter competition, which necessarily means that the practices did not deter deployment of telecommunications facilities. Indeed, he concluded that by adopting a sound approach to pricing public property (charging market value for its use) and by regulating the use of that property to ensure that it functioned properly, localities created an environment which made the market more attractive to providers. This study was submitted to the FCC in response to the National Broadband Plan.[3]

Following Pearce, we conduct an analysis that compares BB deployment in areas with ROW charges to similar areas without ROW charges. To complete this analysis, we use data on BB deployment from the National Broadband Map,[4] data on ROW charges collected from a variety of sources, and data on other local characteristics (mostly from the Census). Specifically, we conducted a regression analysis that regressed the share of state population with access to various measures of broadband[5] on a categorical variable

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[3] http://fjallfoss.fcc.gov/ecfs/document/view?id=7020247000

[4] US Dept of Commerce, National Telecommunication and Information Administration, State Broadband Initiative (June 30, 2010)

[5] We focus on the share with access to BB providers who offer download speeds greater than 3Mpbs and upload speeds greater than 0.768Mpbs, download speeds greater than 50Mpbs, upload speeds greater than 10Mpbs, and the share who have access to 3 or more BB providers. The data for the share with access to

that describes allowed ROW charges,[6] and local characteristics that might affect BB deployment or adoption (e.g., population, population density, share living in urban areas, median household income, share with a college degree, etc.).[7]

In this report, we focus on state-level differences in allowed ROW charges; however, we also conducted analyses that examined differences in actual fees and taxes across municipalities using data on 119 Oregon municipalities and the 59 cities examined in Tuerck et al (2007) that yield results similar to what we found in our state level analysis.[8]

ROW fees vary widely across both states and BB platforms. The Communications Act allows state and local governments to charge cable providers 5% of gross revenues in return for the grant of a cable franchise, which authorizes the holder to provide cable service via facilities in the rights of way.[9] Many local jurisdictions charge cable providers a franchise fee equal to 5% of gross revenues. However, some states limit franchise fees to amounts less than 5% (e.g., Rhode Island limits cable fees to 3% and Kentucky provides for a 2.4% tax on video services and localities must forego cable franchise fees to obtain the tax collection[10]).

Section 253(a) of the Communications Act provides that "no State or local statute or regulation…may prohibit or have the effect of prohibiting the ability of any entity to provide any interstate or intrastate telecommunications service," but it goes on to state that "[n]othing in this section affects the authority of a State or local government to… require fair and reasonable compensation from telecommunications providers, on a

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>3Mpbs down and >0.768up and 3 or more providers were obtained from http://www.broadbandmap.gov/analyze. To analyze the data for higher speeds, we downloaded the raw data files for each state and calculate our own shares. We did not have access to the 2009 Geolytics population estimates for the 2000 census blocks used to create the estimates on the website. Instead, we used population estimates from the 2000 census to calculate our estimates. We assume that if any part of the block has access to a certain provider, then the entire population in the block has access.

[6] Obtaining data on the variation in ROW fees was difficult. Ideally, we would obtain a complete description of ROW charges (and other telecommunications taxes) for a large sample of jurisdictions. In the absence of that data we relied on (a) description of allowed state ROW charges from the "50-State Survey of Rights-of-Way Statutes" completed by NTIA (www.ntia.doc.gov/ntiahome/**staterow**/**row**table.pdf) , (b) description of each state's average state and local telecommunications taxes assembled by the Council on State Taxation (Telecommunications Tax Task Force of the Council on State Taxation (2005) "2004 State Study and Report on Telecommunications Taxation," Washington, DC.), (c) surveys or studies of municipal taxes or fees produced by various state governments or municipal organizations[6], and (d) local ordinances; and (e) information collected through various studies (like the Pearce study) and studies by utility commissions. Given our imperfect ability to classify states into ROW fee categories, we conducted a number of analyses that assigned states' with ambiguous ROW statutes to different categories. None of these alternative classifications affect our conclusions.

[7]Studies that describe similar analyses include: Kolko, J. (2010) "Does Broadband Boost Local Economic Development," Public Policy Institute of California., Burton, M.L. and M.J. Hicks (2005) "The Residential and Commercial Benefits on Rural Broadband: Evidence from Central Appalachia," Hu, W. and J.E.Prieger (2007) "The Timing of Broadband Provision: The Role of Competition and Demographics," AEI-Brookings Joint Center for Regulatory Studies *Working Paper 07-06.*

[8] League of Oregon Cities (2008) "Franchise Fee Survey," Summer 2008; Tuerck, D,, P. Bachman, S.Titch, and J.Rutledge (2007) "Taxes and Fees on Telecommunication Services" The Heartland Institute, May 2007.

[9] 47 U.S.C. Sec. 542

[10] 47 U.S.C. Sec. 542, R.I.Gen Laws § 39-19, KY. Rev. Stat. Ann. § 136.616(2)(a)

competitively neutral and nondiscriminatory basis, for use of public rights-of-way on a nondiscriminatory basis…" Relative to fees on cable services, fees vary more widely across states. Some states do not limit municipal fees as long as they meet the "fair and reasonable" criteria (e.g., Maryland and New York). Other states provide for gross-revenues based fees (e.g., Rhode Island law permits fees up to 3% and Oregon law permits fees of up to 7% of gross revenues on incumbent local exchange revenues[11]). Still other states do not allow a rental fee at all, but allow local governments to charge fees to recover specified costs (e.g., Alaska, California[12]) or costs of providing services. (e.g., New Jersey[13]).

To investigate the potential effects of ROW fees on BB deployment, we first compared BB deployment in states that allow telecommunications ROW charges that are not tied to a cost calculation (the "Fair and Reasonable Charge" states) to deployment in states that limit ROW charges to telecommunications companies to some defined portion of costs, (the "Cost" states) for four categories of BB deployment. Specifically, we examined the share of each state's population that lived in an area with more than three BB providers, the share that lived in an area with greater than 3Mpbs download speeds and greater than 0.768Mpbs upload speeds, the share living in areas with greater than 50Mpbs download speed, and the share living in areas with greater than 10Mpbs upload speeds. We observe no statistically significant difference in deployment between the "Fair and Reasonable Charge" states and the "cost" states, and the largest differences we do observe (for more advanced speeds) suggest greater deployment in ROW fee states. We summarize these results in Table 1.

[11] Or. Rev. Stat. § 221.515

[12] Alaska Stat. § 42.05.251, California Government Code § 50030

[13] N.J.S.A. §54:30A-124

Table 1. Differences in broadband deployment for states that allow ROW rent and states that limit ROW fees to costs

	Share with download speed >3Mpbs and upload speed >0.7Mpbs	Share with 3+ providers (any technology)	Share with max download speed >50 Mpbs	Share with max upload speed >10 Mpbs
"Fair and Reasonable" states	0.96 (0.01)	0.93 (0.02)	0.35 (0.08)	0.39 (0.09)
"Cost" states	0.94 (0.02)	0.94 (0.03)	0.21 (0.07)	0.28 (0.07)
Difference	0.02 (0.03)	-0.02 (0.03)	0.14 (0.11)	0.11 (0.12)
Difference, controlling for state characteristics	0.01 (0.03)	-0.02 (0.03)	0.22 (0.11)	0.14 (0.13)

Source: ECONorthwest

It is possible that the states that allow larger ROW fees differ from those that limit fees to costs, and that these differences obscure the relationship between ROW fees and BB deployment. To address this possibility, we compared BB deployment in states with ROW fees to otherwise similar states without them. For instance, we compared a state like Oregon, where many localities charge gross-revenues based fees to both cable and telecommunications companies, to a similar state like Colorado, which limits localities to charging telecommunications companies a fee to recover costs incurred in processing ROW permits.[14] Comparing these two states, we found the same results. Ninety-eight percent of Oregonians have access to broadband with greater than 3 Mpbs down and 0.768 Mpbs up, and ninety-nine percent of Coloradoans do. One-hundred percent of Oregonians have access to greater than 3 providers, and ninety-eight percent of Coloradoans do. However, with respect to advanced metrics, Oregon outpaces Colorado by a wide margin. Sixty-eight percent of Oregonians have access to BB with download speeds greater than 50Mpbs, but less than 2 percent of Coloradoans do.

In the final row of Table 1, we present the results of a statistical analysis that controlled for factors other than ROW charges that could affect BB deployment. Specifically, we controlled for factors that may affect supply of (e.g., population density or the share of the population living in rural areas) and demand for (e.g., median household income, share of population with a college degree, share non-white, share older than 60, etc.) BB

[14] Colorado and Oregon have relatively similar demographics. If anything, based on demographic characteristics, we expect Colorado to have greater levels of BB deployment and adoption. Colorado has higher median income, greater population density, a higher share of its population with college degrees (which all typically correlate with greater BB deployment and adoption).

services.[15] Even after controlling for these other factors, we observe no difference in BB deployment between areas with more liberal ROW charges and areas where charges to telecommunications companies are limited to actual costs, and more liberal states appear to have higher shares of their state's population living in areas with access to higher speed BB service (although these differences are not statistically significant).

We are aware that some states, (e.g., Florida) have replaced franchise fees with a statewide tax and that other states allow localities to level other local taxes on telecommunications revenues (e.g., utility taxes). As such, the share of telecom revenue collected by localities via taxes or fees may not differ across states. This is one potential reason why we did not observe a relationship between ROW fees and deployment. We conducted additional analyses that used differences in tax rates across places and found results similar to those described above – states with higher effective state and local taxes on telecommunication have access to BB at least as good (and in some cases better) than states with lower effective taxes on telecommunication.

While there are some weaknesses in the underlying data on which the analysis relies, at the very least one would have expected to see some consistent indication of a relationship between ROW charges and deployment or adoption if there was one. [16] Based our analysis, however, we find no support for the conclusion that reductions in ROW fees will meaningfully increase BB deployment. Before the FCC takes any action based on the presumption that reducing ROW fees will increase BB deployment, they should attempt more rigorous study of this issue.

The finding that ROW fees do not depress BB deployment may surprise some. Adopting simple economic intuition, some expect that reducing ROW charges will make BB deployment cheaper (or more profitable) and therefore encourage BB deployment. The actual economics, though, are more complicated. It is not difficult to imagine a number of plausible explanations for why ROW fees do not adversely affect BB deployment. For instance, it is possible that providers pass most of the cost of the fee onto consumers in the form of higher prices (and thus fees only marginally affect provider profits).[17]

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[15] Specifically we control for ln(population density), ln(population), ln(median HH income), share of population with college degrees, share older than age 60, share white, and share living in urban areas. We include all 50 states (and DC). States we cannot classify as "fair and reasonable" or "cost" states, we include as "other." To correct for potentially heteroskedastic errors, we use robust standard errors.

[16] Our analysis is an initial analysis and not a definitive analysis in light of the absence of ideal, exogenous data on ROW charges (as described in footnote six), and better data on BB deployment and adoption.

[17] We do not know the extent to which this occurs. Assessing the incidence of ROW charges in current telecommunications markets is difficult. In general, how much of a tax/fee is paid by different groups depends on their relative responsiveness to price changes – with the general rule that the most price insensitive groups pay most of the tax. For instance, 20 years ago, Hausman (2000) pointed out demand for basic wireline telephone service was not very sensitive to price (i.e., demand was inelastic), thus consumers paid nearly all of the taxes and fees imposed on wireline telephone service. A little over 10 years ago, demand for BB was fairly sensitive to price, as such, Goolsbee (2006) found that consumers likely paid between 50-60% of any tax on BB (with producers paying the rest). Dutz et al (2009), though, argue that in recent years demand for BB has become less sensitive. As such, simple economic theory would argue that consumers now pay an even greater share of ROW fees (and other telecommunications taxes); however, Christensen et al (2001) point out this potential increase in the share paid by consumers may be muted by

It is also possible that the gap between profitable and unprofitable investments dwarfs any change in profits from lower ROW fees. For instance, many analysts have concluded that communities that currently lack access to BB services lack those services because the costs of installing and providing services in these locations significantly exceed the revenues providers can earn on the services.[18] This has little to do with the ROW fees that local jurisdictions charge in areas where providers supply BB services.

Recent FCC analyses, which rely on improved data collection efforts, describe in detail the locations and characteristics of communities that do not have BB services, and the barriers to BB penetration into these communities.[19] The common characteristics among these communities include:

- Rural, isolated locations, far from centers of population and commerce.
- Relatively few residents, households, and businesses disbursed across large geographic areas.
- Mostly low-income, low-education households.
- A large percentage of residents uninterested in using the internet.

States with low shares of their populations who can access higher speed technologies tend to have similar characteristics.

The un-served communities account for a small percentage of the total U.S. population. FCC's *National Broadband Plan*, released in March 2010, reports an un-served population of approximately 14 million residents, or 4.5 percent of the U.S. population.[20] FCC's

changing technology and the ability to switch among cable, wireline, and wireless services. Hausman, J. (2000) "Efficiency effects on the US economy from wireless taxation." *National Tax Journal* 53(2):733-742.; Goolsbee, A. (2006) "The Value of Broadband and the Deadweight Loss of Taxing New Technology," *The B.E. Journal of Economic Analysis & Policy* 0(1).; Dutz, M., J.Orzag, and R. Willig (2009) "The Substantial Consumer Benefits of Broadband Connectivity for US Households" CompassLexicon, July 2009.; Christensen, K., R.J. Cline, and T.S.Neubig (2001) "Total Corporate Taxation: Hidden, Above-the-Line, Non-Income Taxes" *State Tax Notes* (November 12, 2001), p.529-30.

[18] FCC. 2011. *Seventh BB Progress Report and Order on Reconsideration*. In the Matter of Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion. GN Docket No. 10-159. May 20; FCC. *The Broadband Availability Gap OBI Technical Paper No. 1*. April; FCC. 2010. *Connecting America: The National Broadband Plan*. March; FCC. 2011. *Bringing Broadband to Rural America: Update To Report On A Rural Broadband Strategy*. GN Docket No. 11-16. June 17; Schadelbauer, R. 2011.*The BB Adoption Summit All Aboard? Tackling Broadband Adoption. National Telecommunications Cooperative Association*. April 6; Rosen, J. 2011. "Universal Service Fund Reform: Expanding Broadband Internet Access in the United States," *Issues In Technology Innovation*. No. 8, April. Center for Technology Innovation at Brookings; Carlson, E. No date. *Broadband Adoption Barriers and Impacts*. A literature review; Smith, A. 2010. *Home Broadband 2010*. Pew Internet & American Life Project. August 11.

[19] FCC 2010, *Seventh BB Progress Report*; FCC 2010, *The Broadband Availability Gap*; FCC 2011, *The National BB Plan*; FCC 2011, *Bringing Broadband to Rural America*.

[20] FCC 2010, *The National Broadband Plan*, p. 136.

more recent *Seventh Broadband Progress* report from May 2011, puts the figure at 26.2 million, or 8.4 percent of U.S. population.[21]

The FCC report, *The Broadband Availability Gap*, describes the details of these financial barriers and the amounts of subsidy necessary for private provider to serve these communities. [22]

- The total economic subsidy to connect and supply BB services is $23.5 billion.
- Subsidizing all or part of the initial connection—the capital expenditures for the infrastructure—would allow private BB providers to serve approximately 46 percent of the un-served households. These providers would earn enough revenue to cover their costs so long as they do not pay the capital costs of installation.
- Servicing the remaining 54 percent of un-served households will require a one-time subsidy to install the infrastructure, and ongoing subsidies to cover the service costs.
- Serving the 250,000 households that require the greatest subsidy would cost approximately $14 billion of the total $23.5 billion to connect all 14 million un-served households. That $14 billion would be spent on just two-tenths of one percent of all U.S. households. *The average cost per household is approximately $56,000*.

The financial barriers limiting BB penetration into currently un-served areas are unrelated to ROW fees charged by local jurisdiction. Limiting or abolishing these fees will likely have no impact on increasing BB supply in these areas.

To further illustrate how unlikely ROW fees are to explain the lack of BB penetration in areas that currently lack it, consider the following back-of-the-envelope calculation based on the investment gap values mentioned above.

For an area to lack BB, the expected profits from serving an area must fall short of the amount needed to justify the investments required to serve it. For ROW fees to cause BB to not be available in an area, the expected change in profits from eliminating the ROW fee must be sufficient to change the necessary investments from unprofitable to profitable.

Consider, for instance, Josephine County in Oregon. According to the Investment Gap study, this county faces an investment gap of $28.8 million (or $7,106 per household). This is roughly the average per household gap for all counties.

If we assume that the average household pays $50 per month for BB, including a 5% franchise fee, then eliminating the franchise fee, at most, can increase provider profits by

[21] FCC 2011, *Seventh Broadband Progress Report*, p. 15.

[22] FCC 2010, *The National Broadband Plan*, p. 136-138.

$30 per household per year.[23] Thus, to assume that ROW fees prevent BB investments in Josephine County, we must believe that $30 per household per year—or $120,300 if every un-served household were expected to adopt BB if it were available—is the difference between a profitable and unprofitable $28.8 million investment. This is highly unlikely given the size of the required investment.

The FCC has better ways of increasing BB deployment in currently un-served areas—proven, effective public policies that work. The Universal Service Fund (USF) successfully extended and supports phone service throughout the U.S., including to the most remote and expensive service areas. The FCC originally designed and implemented the USF for the dominant technology at the time, landline phone service. The FCC proposes modifying and updating the USF to address barriers to BB penetration. The Connect America Fund (CAF) would modify the USF to include one-time and reoccurring subsidies that extend BB infrastructure and services to un-served areas. The Mobility Fund (MF) would provide one-time subsidies to extend wireless infrastructure.

Obvious parallels exist between the USF that subsidizes phone services in uneconomical markets and supplying BB and wireless services to many of these same communities. The point is not that the programs are perfect.[24] It is that from an economic standpoint these programs could be effective in encouraging BB deployment and adoption if properly adjusted and combined.[25]

B. Do ROW Fees Affect BB Adoption?

The literature on BB adoption identifies cost of service as one of the many factors that can influence adoption. The relationship between cost and adoption, however, is complex because of the many factors included in the cost of using or accessing BB service. Our own research, and results reported in the literature, indicates that to have more than a negligible impact on BB adoption, the total cost of BB services would have to drop by an amount much larger than could be achieved by limiting or abolishing ROW fees. A related point is that, to the extent that consumers purchase BB based on advertised monthly prices, which do not include taxes and fees, reducing ROW fees will have no impact on purchase decisions (unless the reduction in fees reduces the list price). For these and other reasons described below, limiting or abolishing ROW fees would likely have no impact, or at most a negligible effec on BB adoption.

A calculation of the difference between what non-adopters say they would be willing to pay for BB services, and the costs of BB services, shows just how far BB costs would have to drop to have any impact on increasing adoption. This drop is significantly more than could be achieved by passing on any ROW-fee saving.

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[23] This assumes that providers pay the entire ROW fee, consumers pay nothing. As we note above, consumers likely pay part—perhaps a large part—of telecom ROW fees.

[24] Rosen 2011.

[25] FCC. 2011. *Fifteenth Report in the Matter of Implementation of Section 6002(b) of the Omnibus Budget Reconciliation Act of 1993*. WT Docket No. 10-133.

Research on non-adopters conducted for the FCC indicates that the average monthly cost of BB service is $41. Yet, the most that non-adopters say they would be willing to pay for BB is $25 per month.[26] This $16 per month gap is many times the likely savings that telecoms could realize by not paying ROW fees. Assuming not paying ROW fees reduces the total cost of providing BB services by 5%, the telecom would save $2.05 per customer. Assuming the telecom passes the full amount of that savings on to their customers—which is unlikely for reasons mentioned elsewhere in this report—this still leaves a gap of $13.95 per month.

Our analysis of the statistical relationship between ROW fees and BB adoption found that adoption in states that allow ROW fees does not differ from adoption in states that limit ROW charges. Using a statistical analysis similar to the one we used to examine the relationship between ROW fees and deployment, described in Section III.A. above, we found a tiny negative relationship between ROW fees and adoption (states that limit ROW fees to actual costs have adoption rates that average 0.1 percentage point higher then states that do not limit ROW fees).[27] This relationship, however, was not statistically significant, which as we described above means the data indicate no relationship between state and local ROW fees and BB adoption.

The literature on the factors that influence or hinder BB adoption support our results. Cost of BB services was more of a factor inhibiting BB adoption years ago than it is today. Now, barriers other than cost are more important.[28] Recent research conducted for the FCC on BB use and adoption found that 35 percent of the U.S. population do not use BB at home.[29] The main reasons given for not adopting are as follows:

- 15 percent cite monthly bill
- 19 percent cite hardware costs, installation fees, or aversion to required long-term contracts
- 41 percent cite lack of digital literacy or lack of interest in using the Internet

Other researchers found a lack of interest in the internet as a significant barrier to adoption. A recent survey conducted by the Pew Internet & American Life Project found that approximately 21 percent of Americans do not use the Internet at all—at home or elsewhere. Of this population, only 10 percent said they would like to start using the Internet in the future. Thus, 90 percent of current non-users have no interest in using the

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[26] Horrigan 2010.

[27] Our data on adoption rates come from: Section 8.3 of Exploring the Digital Nation: Home Broadband Internet Adoption in the United States, Prepared by Economics and Statistics Administration and National Telecommunications and Information Administration in the U.S. Department of Commerce, November 2010.

[28] Hauge, J. and J. Prieger. 2009. *Demand-Side Programs to Stimulate Adoption of Broadband: What Works?* October 14.

[29] Horrigan, J. 2010. *Broadband Adoption and Use in America OBI Working Paper Series No. 1*. Federal Communications Commission. February.

Internet even if they could. At the moment, this population appears content to remain non-users.[30]

Other cost-related barriers to BB adoption reported in the literature include:[31]

- requiring a deposit for new or low-income customers
- software costs, especially virus-protection programs
- computer maintenance costs
- price increases after introductory offers expire
- bundling of BB with other, unwanted services

Studies of BB adoption by residents of low-income households found that the decision to purchase BB services is a marginal decision. This population considers expenses for rent, food, utilities, and cell phone service necessities and more important than BB services. BB services are dropped or "unadopted" when the purchaser's available resources drop (because of job loss, health care costs and so on) or when prices increase unexpectedly so the service costs more than can be afforded (when introductory rates expire, for example) .[32] For this reason, researchers concluded that BB assistance programs should take the long view.

> "It is important to keep in mind that the [BB] adoption decision is not a one-time act of a customer choosing to purchase broadband Internet access, but rather an ongoing choice to keep using broadband month after month. It is therefore imperative that any support programs designed to make broadband affordable to those of limited means living in areas where the cost to serve is particularly high be both ongoing and sustainable."[33]

According to recent reports, consumers are adopting Internet-capable smartphones at a rate faster than almost any high-tech product in history. Most users who access the Internet exclusively using their smartphone are young minorities from low-income households. This group finds accessing the internet via smartphones a preferred alternative to purchasing more expensive computers and paying monthly DSL or cable bills.[34]

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[30] PEW Internet. 2010. *Home Broadband 2010.* PEW Internet & American Life Project. August 11; Schadelbauer, R. 2011. "All Aboard? Tackling Broadband Adoption," *The Broadband Adoption Summit.* National Telecommunications Cooperative Association. Washington, D.C. April 6. Page 14.

[31] Horrigan 2010; Dailey, D. et al. 2010. *Broadband Adoption in Low-Income Communities.* A Social Science Research Council Report. March; Schadelbauer, R. 2011. *The Broadband Summit, All Aboard? Tackling Broadband Adoption.* National Telecommunications Cooperative Association. April 6.

[32] Dailey et al. 2010.

[33] Schadelbauer 2011, p. 22.

[34] Kang, C. 2011. "As smartphones proliferate, some users are cutting the computer cord," The Washington Post and Bloomberg Business. July 11. http://www.washingtonpost.com/business/economy/a-smartphones-proliferate-some-users-are-cutting-the-computer-cord/2011/07/11/gIQA6ASi9H_story.html

The proceeding discussion described the complex relationship between BB cost and adoption. Of those who do not use BB at home, only 15 percent cite cost of monthly service as the reason. Cost, however, includes many factors that telecoms could not influence even if they paid lower ROW, and other factors (like deposits) that they could influence even without regulation of local fees and charges. Regulating ROW fees would do nothing to address the major barriers to BB adoption of lack of interest and low levels of digital literacy.

Another important reason why passing ROW-fee savings on to customers would likely have no measurable effect on BB adoption is the fact that BB providers do not include tax and fee information when quoting the price of their services. Our review of web sites of major BB providers[35] found that all of the providers list the monthly price of BB service *excluding taxes, fees, installation costs and other charges*. Thus, current non-adopters searching provider web sites would have no way taking ROW charges into account in deciding whether to purchase services. After initial adoption, the literature suggest that factors other than ROW fees—including the expiration of low introductory prices and the subscriber's financial situation—affect "un-adoption."

[35] Quest, www.qwest.com/residental/internet/broadbandlanding/; Verizon, www22.verizon.com/Residential/HighSpeedInternet/Plans/Plans.htm; Time Warner Cable, order.timewarnercable.com/OfferList.aspx ; AT&T, www.att.com/dsl/shop/plansShared.jsp?WT.SRCH=1; Comcast, www.comcast.com/shop/buyflow2/products.cspx?inflow=1.

IV. ROW Fees Charged in One Area Do Not Affect BB Deployment or Adoption in Other Areas

One argument by private BB providers for limiting or abolishing the ROW fees that they pay local jurisdictions is that the providers would use some of the savings to subsidize BB services in currently un-served or under-served higher cost areas. Such voluntary cross subsidization makes no economic sense for profit making firms. The prime directive for all private firms, including telecommunication firms, is generating the greatest returns to shareholders. Taking revenues earned on high-profit services—services provided in urban and suburban areas where they pay ROW fees—and voluntarily investing these revenues in low- or no-profit services cannot be justified from a profit or return-on-investment grounds. This is the financial equivalent of throwing money away.

Private telecommunications firms do have a history of voluntarily cross subsidizing among markets, but only to *increase* profits, not decrease them. For example, a firm operating in both a regulated and unregulated market has an incentive to shift costs from the unregulated to the regulated market. A related example is using the best and most advanced technology in the competitive market with a large user base, and using older, less efficient technology in the regulated, smaller market, for the same profit-maximizing reason.

The analytical assumptions underlying FCC's analysis of the BB availability gap describe the expected, profit-maximizing behavior of a telecommunication firm entering a BB market. The major analytical assumptions include:[36]

- Only profitable business cases will induce investments. Private capital will only fund investments in BB systems that return a profit.
- Investment decisions are made on the incremental value they generate. While firms strive to maximize the return on all their operations, investment decisions are evaluated based on the incremental value they provide.
- Markets currently un-served have their own unique or specific diseconomies of scale that affect the profitability—or lack thereof—of entering these markets. Entering these markets requires careful analysis of market details. A one-size-fits-all subsidy program will not work in these markets.

Previous Sections of this report summarize the mammoth financial challenges of bridging the BB gap for communities currently un-served or under-served. Researchers report that surmounting the barriers that limit BB penetration in these communities—including the costs of supplying these communities with BB services and the socioeconomic constraints of lower income, lower educational attainment and little interest in using BB services—requires more than a simplistic subsidy program. In an analogous study of cross-subsidies for telephone service, one researcher concluded,

[36] FCC 2010, *The Broadband Availability Gap*, p. 1-2.

"Reducing, or increasing, local telephone rates by a few dollars per month will do little to address fundamental problems of inequitable income distribution."

…

"Sector-specific regulators have no expertise at running poverty alleviation schemes and should not be doing so under the guise of setting rates."[37]

We have not seen any information that supports the notion of voluntary cross subsidization by private telecom firms from a profitable to less or unprofitable market, and the consensus economic literature refutes the assumption that a rational firm would ever do so. Firms allocate capital to investments that will generate the highest returns. It makes no business sense for private telecoms to take savings from not paying ROW fees and to use this savings to fund less-profitable operations.

The FCC can look to the experience of local jurisdictions that include build-out requirements as a provision for ROW access for evidence that BB providers are unlikely to voluntarily cross subsidize from profitable to unprofitable markets. Jurisdictions include build-out provisions to ensure that BB providers provide access to *all* neighborhoods in a community as a requirement to connect any. This ensures complete coverage for the community. Without this provision, BB providers would limit services to the most profitable areas.

To the extent that regulating ROW fees increases provider profits, they may return these profits to shareholders, invest in profitable BB markets, invest in other markets, or some combination of these three.[38] It is highly unlikely, however, that they would voluntarily invest in currently un-served or underserved areas because to do so would be unprofitable.

As our analysis described in Section III shows, passing on any ROW-fee savings to potential customers would likely have no measurable impact on BB deployment or adoption. These results also apply when considering the impact of regulating the fees and right-of-way practices in a one market on services in other markets. Even assuming ROW-fee savings were shifted from one market to another, there would be no measurable impact on BB deployment or adoption for the reasons mentioned in the preceding Sections.

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[37] Levin, S. and S. Schmidt. No Date. *Telecommunications After Competition: Challenges, Institutions, Regulation*. Pages22-23.

[38] To argue that any investments would be made with any increased profits from reduced ROW fees, one must also assume that providers would not have found some other way to finance these investments. That is, one must assume that these investments would not have been made but for a change in profits from reduced ROW fees.

V. Setting Reasonable, Market-Based ROW Fees

The FCC's NOI asks several questions that suggest economically sound pricing mechanisms are inappropriate for pricing access for ROW use. In particular, the NOI asks:

> *Are "market based" rates for use of public rights of way or publicly-owned wireless facilities sites reasonable?*

In this section we describe fundamental economic concepts regarding using price signals and methods for setting prices that result in economically efficient and reasonable ROW fees, and conclude that "market-based" rates—by which we mean rates that property reflect the value of the asset—are reasonable.

A. Compensation for Use of Public Resources

Allowing state and local governments to charge for use of public ROW and other public property is consistent with the economic principle of using prices to allocate scarce resources. From an economic perspective, a locality's ROW is a scarce resource just as lands—public or private—outside a ROW are scarce. In contrast to "free resources," scarce resources do not "exist in such large quantities that they need not be rationed among those wishing to use them."[39]

Economic scarcity, though, encompasses more than a constraint on physical capacity. A resource can be scarce in an economic sense even if it can accommodate all users at a given moment in an engineering sense. For example, if the use of a resource by one party imposes costs on other parties, then it is scarce in an economic sense. This conclusion holds whether the affected party is a local government, another user of the ROW (a utility, a commuter, a truck driver, or anyone else) or a resident (a home owner whose property is affected by utility facilities in or under the street).

It is because a locality's ROW is scarce that charging for its use makes good economic sense. Economic texts describe a relationship between economic scarcity and economic cost, or opportunity cost:

"Just as scarcity implies the need for choice, so choice implies the existence of cost. … A decision to have more of one thing requires a decision to have less of something else. It is this fact that makes the first decision costly."[40]

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[39] Samuelson, Paul A. and William D. Nordhaus. 2001. *Economics*, 17th Edition. New York: McGraw-Hill. Page 765. For other authors expressing the same concept, see Hall, Robert E. and Marc Lieberman. 1998. *Microeconomics: Principles and Applications*. Cincinnati, OH: South-Western College Publishing. Page 483; O'Sullivan, Arthur and Steven M. Sheffrin. 2001. *Microeconomics: Principles and Tools*, 2nd Edition. Upper Saddle River, N.J.: Prentice Hall. Page 2: Parkin, Michael. 1998. *Microeconomics*, 4th Edition. Reading, MA: Addison-Wesley. Page 42; Tregarthen, Timothy and Libby Rittenberg. 2000. *Microeconomics*, 2nd Edition. New York: Worth Publishers. Pages 3-4.

[40] Lipsey, R., et al. 1990. *Microeconomics*, 9th Edition. New York: Harper & Row. Page 4. For other authors expressing the same concept, see Nicholson, Walter. 2000. *Intermediate Microeconomics*, 8th Edition. Fort Worth, TX: The Dryden Press. Page 17; O'Sullivan, Arthur and Steven M. Sheffrin. 2001. Cited previously.

"It [opportunity cost] concerns the true economic costs or consequence of making decisions in a world where goods are scarce."[41]

The history of cities throughout the world offers compelling illustrations of economic scarcity, opportunity costs, and efficiency in the development of ROW.[42] Examples of cities in which we have observed such scarcity and opportunity costs first hand include New York, Chicago, San Francisco, Portland (Oregon), Tucson, Huntsville, New Orleans, and Seattle. This nearly universal pattern of municipal management of ROW has not arisen by chance or whim. It reflects real and substantial economic forces that create the so-called "joint-allocation problem," namely, allocating a single, scarce and therefore valuable resource among a number of competing demands.

Occupying space in the above- or below-ground portions of the ROW precludes a local government or others from using that same space now and in the future. That is, the three-dimensional space occupied by a given conduit or wire obviously cannot be occupied by another. Besides the physical space occupied by a conduit or pipe, many cities require minimum setbacks or clearances around utilities placed in the ROW. Also, depending on the specifics of the use, the installation, the maintenance, and the replacement of any given facility in the ROW may create problems for and impose costs on the locality and on other users of the ROW.

As applied to a locality's ROW, today's scarcity and the resulting opportunity costs will persist tomorrow. That is, today's scarcity manifests itself in those many locations in which the use of the ROW for one service inhibits the use of the ROW or other properties for other services by the same or other users. That scarcity and the associated negative spillover effects will persist into the future. Such negative effects may include increased excavation or construction costs, increased costs associated with design and planning, costs associated with loss-of-service attributed to construction accidents or

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Page 24; Parkin, Michael. 1993. *Macroeconomics*, 2nd Edition. Reading, MA; Addison-Wesley, Page 10; Tregarthen, Timothy and Libby Rittenberg. 2000. Cited previously. Page 5

[41] Samuelson, Paul A. and William D. Nordhaus. 1992. *Economics*, 14th Edition. New York: McGraw-Hill. Page 131. For other authors expressing the same concept, see Hall, Robert E. and Marc Lieberman. 1998. Cited previously. Page 18; McConnell, Campbell R. and Stanley L. Brue. 1996. *Economic*s, 13th Edition. New York: McGraw-Hill, Inc. Page 26; Parkin, Michael. 1998. Cited previously. Page 42; Tregarthen, Timothy and Libby Rittenberg. 2000. Cited previously. Page 5.

[42] For various historical descriptions of the development of streets and rights of way, see Abbott, Carl. 1983. *Portland: Planning, Politics, and Growth in a Twentieth-Century City*. Lincoln, NE: University of Nebraska Press; Baldwin, Peter C. 1999. *Domesticating the Street: The Reform of Public Space in Hartford, 1850-1930*. Columbus, OH: Ohio State University Press. Pages 201-203, 207-208; Barrett, Paul. 1983. *The Automobile and Urban Transit: The Formation of Public Policy in Chicago, 1900-1930*. Philadelphia, PA: Temple University Press. Pages 13-14, 49-50; Bridenbaugh, Carl. 1938. *Cities in the Wilderness: The First Century of Urban Life in America 1625-1742*. New York: Alfred A Knopf. Pages 153-154, 159, 317; Hood, Clifton. 1993. *722 Miles: The Building of the Subways and How They Transformed New York*. New York: Simon & Schuster. Page 84; Pierce, Bessie Louise. 1937. *A History of Chicago: Volume I*. New York: University of Chicago Press. Pages 96, 336: Pierce, Bessie Louise. 1937. *A History of Chicago: Volume II*. New York: University of Chicago Press. Page 325; Quaife, Milo M. 1923. *Chicago's Highways Old and New: From Indian Trail to Motor Road*. Chicago, IL: D.F. Keller & Co. Pages 53-54, 60: Thwing, Anne Haven. 1920. *The Crooked and Narrow Streets of Boston: 1630-1822*. Boston: New England Historic Genealogical Society. Electronic Version; Whitehill, Walter Muir. 1968. *Boston: A Topographical History, 2nd Edition*. Cambridge, MA: The Belknap Press of Harvard University Press. Page 8.

other damage to services in the ROW, increased travel time for vehicular traffic on the ROW, and lost revenues for businesses whose customers are inconvenienced by ROW construction.

Expressed on a cost basis, ROW fees should compensate a local government not only for the opportunity costs of occupying space in the ROW, but also for the other costs the locality incurs related to the ROW. To the extent that a ROW fee does not capture the full range of costs that the locality incurs related to the ROW, the resulting cost will subsidize the ROW user. That is, the user will not pay the full cost of establishing, occupying and managing the ROW. A subsidy to the ROW user also results in uncompensated costs to the locality.

These costs include, at a minimum: the fixed costs of establishing and developing the ROW, the costs over the long term of managing the community-wide ROW, the daily or periodic short-term O&M costs, and related administrative costs. Measuring each of these costs for a given ROW transactions would be complex, time consuming and inefficient. There are other, less expensive ways to determine a fair and reasonable price, and those methods, which we describe in the next section, are commonly used by private entities and by federal, state, and local governments.

Like other real-estate assets within a local government's boundary, a locality's ROW yields value to the users of the ROW. In an economy based on competition, producers and owners of goods and services with economic value typically do not give them away free. In economic markets, prices serve as signals that help society put its resources to efficient use.[43] Not charging for use of the local government's ROW would treat it as if it were a free good with no economic value. "A true 'free good' is one which is not scarce … Examples of free goods are rare and perhaps becoming rarer still—sunshine in the Sahara Desert provides one example."[44]

Charging fees less than the value granted to the user for ROW access sends the signal that the resource is worth less than its true value. This will lead both to inefficient use of the ROW and to a subsidy to the user.

Allocating the ROW by first-come, first-serve or on some other non-market price makes no economic sense, especially given the external costs imposed on third parties if a ROW is over-consumed by any individual enterprise. The same result follows if one artificially limits a community to charging fees without regard to value. This is easily prevented by charging a ROW fee that reflects the ROW as a valuable asset or resource for which there are important and competing uses. Free and unrestricted–or underpriced—access to a locality's ROW allows a provider to avoid making choices that are important to make. For example, if a provider has a choice of proceeding down Route A and Route B, and

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[43] See, for example, Byrns, Ralph T. and Gerald W. Stone, Jr. 1992. *Economics*, 5th Edition. New York: HarperCollins. Page 71; Nicholson, Walter. 1998. *Microeconomic Theory*, 7th Edition. Fort Worth, TX: Dryden Press. Pages 514-515; Pindyck, Robert S. and Daniel L. Rubinfeld. 2000. *Microeconomics*, 5th Edition. Upper Saddle River, N.J.: Prentice Hall. Page 590; Samuelson, Paul A. and William D. Nordhaus. 2001. Cited previously. Pages 27, 291.

[44] Pearce, David W. (ed). 1997. *The MIT Dictionary of Modern Economics*, 4th Edition. Cambridge: The MIT Press, Page 163.

Route A passes through environmentally sensitive areas, one would want the provider to pay the cost of the environmental review and to pay all mitigation costs. This encourages a rational choice as to whether to proceed down one route or the other. Without proper price signals, providers can be expected to engage in behavior that will shift or increase costs to others and interfere with a balanced and economically use of this valuable and scarce asset.

Charging a fee helps ensure that the ROW will be used efficiently, that is, that the ROW will not be misused or wasted. Furthermore, the closer the fee approximates the relevant market price, the more likely the ROW will be used in an economically efficient manner, a fundamental criterion by which economists evaluate the performance of a market and overall social welfare.

B. Calculating a Reasonable Price for Occupying Space in a Jurisdiction's ROW

Appraisal literature describes a number of methods for calculating the value of ROW access, and setting fair prices for its use. We describe four methods.[45] The central point here is not that these methods are the only methods, or that a price is unreasonable unless it passes muster under one of these four tests. Rather, it is that there are a number of well-recognized ways of efficiently pricing ROW use that do not require significant regulatory intervention or require one to conduct a detailed cost/allocation analysis.

1. Land-based appraisals: Analysts calculate the value of a ROW based on the value of land adjacent to the ROW. This is sometimes referred to as the "across-the-fence" (ATF) method. A variation on the ATF method acknowledges that because a ROW provides a continuous corridor, a ROW has a higher value to users than the disparate, unassembled adjacent parcels. This corridor value can exceed the ATF value by a factor of six or more.

2. The willing-buyer-and-willing-seller method: Analysts seek to replicate market negotiations over the value of the use of the ROW. The seller considers his or her costs, including the value he or she could earn from other uses of the land. The buyer considers the income-generating potential of the ROW and the costs of alternative routes.

3. Income-based methods of valuation: Analysts take as given that a variety of assets contribute to a firm's income or value. A ROW may be one of many income-generating assets from which a firm would expect to earn a reasonable return. The analysts base the market value of the use of the ROW on the return the asset generates for the firm.

4. The comparable-transactions method: Analysts base the value users of ROW attach to the transaction by looking at ales or rental agreements for similar ROW.

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[45] National Oceanic and Atmospheric Administration (NOAA). 2002. *Final Report: Fair Market Value Analysis for A Fiber Optic Cable Permit in National Marine Sanctuaries.* NOAA, National Ocean Service, National Marine Sanctuary Program. August. Pages 7-13.

> Information on most ROW transactions between private entities remains confidential. More publicly available information exists on ROW agreements between municipalities and private firms that want access to municipal ROW. The study of comparable transactions is an established practice for valuing ROW.[46] The degree of similarity between the comparable transactions and the ROW at issue helps specify the high and low measures of value.[47] While there are certainly not the same numbers of ROW comparables as for home sales, there are a significant number of comparables.

One of the problems with regulating ROW prices is that the regulation may foreclose innovative approaches to pricing ROW access that benefits both parties. For example, a BB provider who is installing fiber may be willing to trade fiber for access to the ROW in cases where the land owners value use of fiber greater than the revenue earned on the ROW fee, and the costs to the BB provider of the fiber are less than the ROW fee. Similarly, a BB provider may prefer a gross-revenues based fee because the fees by definition become due as the provider generates cash flow. The ability of localities to negotiate and develop different approaches to pricing over time can be important in ensuring that the ROW is efficiently and effectively used.

Regarding the FCC's question, "Are 'market based' rates for use of public rights of way or publicly-owned wireless facilities sites reasonable?", yes they are. Charging such rates does not create a barriers to deployment, but do encourage efficient use of the ROW.

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[46] See, for example, Fitzgerald, Shawana. 2005. *Review of Fiber Optic Right of Way Pricing*. Prepared for the City of Portland. August 31. Page 6; NOAA. 2002. Cited previously; U.S. Department of Justice. 2001. *Uniform Appraisal Standards for Federal Land Acquisitions*. http://www.usdoj.gov/enrd/land-ack/yb2001.pdf

[47] Ring. A. 1970. *The Valuation of Real Estate*. Prentice Hall. In, Quan, D. and J. Quigley. 1989. "Inferring an Investment Return Series for Real Estate from Observations on Sales." *Journal of the American Real Estate and Urban Economics Association*, 17(2); and U.S. Department of Justice. 2001. Cited previously.

VI. NO EVIDENCE THAT ROW FEES REFLECT MARKET POWER

The FCC seeks information on the likelihood that local jurisdictions will exercise monopoly power and overcharge ROW users. Municipalities have strong incentives not to behave in such a manner.

Municipal entities have different goals, responsibilities, and functions than do corporate entities. Municipalities hold resources—including ROW resources—in trust for its citizens and businesses. For example, municipalities manage ROWs not to maximize profits or fiscal surpluses, but to promote economic development. The locality's interest in promoting economic development for residents and businesses disciplines its pricing of ROW access. To the extent that the electorate feels that elected officials have mismanaged the ROW access or other resources, or placed unreasonable restrictions on the use of private land, it can recall or not reelect these officials.

Moreover, the proposition that a local government would exercise monopoly power and charge supra-competitive rates to access its ROWs—even if it had such monopoly power—is a flawed economic-development strategy. Municipalities compete vigorously with one another to attract and encourage deployment of advanced and reliable utilities, that will in turn, attract and support new industrial, commercial and residential development. This is a strong incentive not to overprice access ROWs.

The fact that BB providers have incurred "sunk cost," as described by the FCC in the NOI, does not give local jurisdictions incentives to behave as a private firm might when it comes time to reauthorize a ROW agreement with the provider. In contract negotiations between two private, for-profit entities, each party has strong incentives to get the best deal they can. This includes using leverage one party may have over the other. The FCC's "sunk cost" argument assumes that because the BB provider incurred expenses installing infrastructure in the ROW, the local jurisdiction can use this as leverage against the provider during reauthorizing discussions. Localities have no such leverage, and the provider is not a helpless victim of sunk costs. In response to a demand for unreasonable ROW fees, a provider can state and publicize its position, that any increase in ROW fees will be passed through to subscribers. If the BB provider had to increase its prices to a level that disadvantaged the community in BB prices as compared to its competing localities, the local officials would disadvantage themselves in attracting businesses and jobs.

For these reasons and others, local jurisdictions have incentives to charge fair and reasonable ROW fees, even assuming that they have substantial market power as compared to providers.

VII. Responses by Local Jurisdictions to Reducing or Abolishing ROW Fees

In Sections III and IV we describe the likely outcomes of public policies that limit or abolish the ROW fees that local jurisdictions currently charge. We do not observe evidence that such an action would likely produce meaningful benefits in the form of increased BB penetration or adoption. Such a policy would, moreover, generate costs. There is, first, the cost of regulation itself. As suggested above, allowing for flexibility in price-setting allows communities and providers to agree on fees that can be easily calculated and enforced, and that can respond to market changes. Second, there is the cost caused if the federal government requires localities to provide access to property at less than market value – that is, if a subsidy is required. These costs—lost revenues to the local government and increased costs associated with responding to the federal regulation—could negatively affect telecom firms and consumers, residents and businesses, and the flow of services provided by jurisdictions.

There are only a few ways a locality can respond to increased costs and reduced revenues.

Jurisdictions could replace the lost revenue through new fees or taxes. Such a response could ultimately harm BB users. For example, if telecoms do not pass the savings from not paying ROW fees on to consumers, the consumers will see no change in their direct BB costs. If, however, the population of payees of the new replacement fee include BB customers, their total costs will increase by an amount in proportion to their portion of the new fee. Thus, BB consumers are worse off under this scenario.

If jurisdictions cannot replace the lost revenue or cover the increased costs through new fees or taxes, then the locality must cut services. For example, based on our experience we know that some jurisdictions use ROW fees to support efficient planning for and management of activities in the ROW. These efforts by the jurisdiction help avoid traffic and pedestrian disruption from construction activities in the ROW, or damaging infrastructure that occupies the ROW. ROW funds also support mapping the ROW that identifies congested areas. Reducing ROW revenues or adding regulatory costs could force jurisdictions to abandon ROW planning and management activities. Results could be business disruptions due to uncoordinated or mismanaged construction in the ROW. The resulting unnecessary or extended traffic delays could affect traffic-related costs for residents and businesses. Accidents in the ROW that interrupt infrastructure services could also negatively affect companies that occupy space in the ROW.

From an economic standpoint, the question is really not whether someone will pay for the rights-of-way, but who will pay: the providers who are using the asset, or the taxpayers. The latter will occur if the FCC takes any action which prevents localities from recovering less than the value of the right-of-way.

Given the prospect of no measurable benefits to BB penetration or adoption from limiting or abolishing ROW fees, but the prospect of harm to BB consumers, residents, businesses, telecom providers and other users of the ROW, it is difficult to find an economic justification for regulating local rights of way charges or practices.

APPENDIX A: VITAE

Bryce Ward, Senior Economist

Years of Experience: 10 years

Firm: ECONorthwest

Education: Ph.D Economics, Harvard University
B.A. Economics and History, University of Oregon

Bryce Ward joined ECONorthwest in 2005. His areas of expertise include econometric analysis and applied microeconomics -- including urban and regional economics, labor economics, public finance, and environmental and natural resource economics. Dr. Ward has applied his expertise to a variety of projects involving litigation support and policy analysis. He has provided oral and written testimony in over a dozen court, legislative, or administrative proceedings.

Right-of-Way

- Provided oral and written testimony regarding economic issues related to municipal right-of-way fees in New Orleans.
- Provided written testimony to the FCC regarding the economic aspects of allowing local governments to charge telecommunications providers for access to government-owned or managed property
- Addressed the economic issues of telecommunications firms' challenge, under the Telecommunications Act of 1996, to the City of Portland's franchise-fee agreements for use of the municipal right-of-way

Anti-Trust/Competition

- Testified regarding the economic aspects of alleged anticompetitive behavior in a market for outpatient diagnostic imaging services
- Analyzed the economic issues of class certification and damage calculations related to alleged antitrust violations in the market for residential lots
- Analyzed the market for MRI services in the Boise and Portland and assessed alleged anticompetitive behavior in this market
- Provided written testimony regarding the presence of competition in a market for private prisons and the likelihood of substantial competitive harm to private prison operators from a Freedom of Information Act (FOIA) request

Real Estate

- For attorneys representing the proposed class of plaintiffs, provided oral and written testimony on the economic aspects and harm, if any, to plaintiffs, from an alleged scheme that inflated the appraised market value of real estate

- For attorneys representing the proposed class of plaintiffs, provided written testimony on the economic aspects and harm, if any, to plaintiffs, from an alleged scheme that inflated mortgage costs without proper disclosure

- Described the impact of a pipeline rupture and related oil spill on residential property values

- Analyzed the effect of Portland's Intertwine (a network of open spaces) on property values in the Portland, OR Metro area using a hedonic regression analysis and data from county assessors' records

- Analyzed the effect of Seattle's Natural Drainage (low impact development) Projects on neighboring property values (4505) using a hedonic regression analysis and data from county assessors' records

- Analysis of the Effect of Regulations on Housing Prices in Greater Boston

- Assisted Harvard Professor Edward L. Glaeser in preparing a report for Harvard's Rappaport Institute for Greater Boston and the Pioneer Public Policy Institute that estimated the effect of local regulations on housing supply and housing prices

- Analysis of Neighborhood Price Dynamics

- Assisted Harvard Professor Edward L. Glaeser on a paper detailing the sources of housing-price cycles at the neighborhood level

Labor

- Organized data and conducted statistical analysis to evaluate claims of discrimination in employer discrimination lawsuits

- Calculated economic damages and testified in wrongful termination lawsuits

- Developed an analytical framework, gathered data, and conducted analyses of current market conditions for workers in comparable jobs and comparable communities as precursor to public-interest arbitrations involving transit districts

- Described the potential impact of the financial crisis, recession, and potential deflation on public interest arbitration

- Testified about the reasons and methods for adjusting wages for changes in the cost of living based on the Consumer Price Index (CPI) and the long-term consequences of not adjusting wages during periods of deflation

- Developed a short-term economic outlook for a regional economy in preparation to labor bargaining

- Analyzed historical wage and benefit growth for sheriff deputies relative to other public and private sector employees in preparation for labor bargaining

- Provided written testimony on the economic effects associated with increasing fees for Columbia River Bar Pilots

- Analyzed firm losses resulting from former employees' breaches of restrictive employment-contract covenants regarding future employment with a competitor

- Analysis of the Long-Term Labor Market and Family Outcomes of Harvard Undergraduates

- Calculated potential economic costs associated with proposed change in Oregon's meal and rest break rule

Environment/Natural Resources

- Described the impact of a change in harvest allocations on the economic health and stability of the commercial Dungeness crab industry in Puget Sound (WA)

- Calculated natural resource damages associated with a Superfund site using a Habitat Equivalency Analysis (HEA)

- Calculated lost profits to an oyster farm from chemical contamination

- Described potential economic damages suffered by municipalities as a result of oil spills

- Evaluated the potential economic effects of the U.S. Department of Agriculture and California Department of Food and Agriculture's proposed eradication of the Light Brown Apple Moth

- Calculated profit disgorgement based on emission violations

- Evaluated a contingent valuation study of a proposed wind farm

- Reviewed and evaluated the economic components of a feasibility study and preferred clean-up remedy for a contaminated site

- Evaluated the U.S. Environmental Protection Agency's draft report on groundwater and soil remediation scenarios for a creosote-contaminated Superfund site

- Assisted in an analysis that compared and contrasted benefits and costs, stemming from the use in California of MTBE-oxygenated gasoline with those stemming from the use of ethanol-oxygenated gasoline to determine if refiners could have used ethanol to meet federal reformulated gasoline mandates instead of MTBE during the 1990s

Personal Injury/Wrongful Death

- Calculated economic damages in wrongful death lawsuits

- Calculated lost wages and presented expert testimony in personal injury cases

Public Policy

- Evaluated the effects of tax differences between Oregon and Washington on migration patterns in the Portland metro area
- Described the likely impact of a proposed tax increase on state taxable income and economic growth
- Evaluated the effect of enterprise zone tax incentives on economic development using a regression analysis of longitudinal establishment-level data
- Developed a model and analyzed data to estimate gross revenues for video, voice, and data services at the city level for the League of Oregon Cities
- Described the growth in the market for third-party certified forest products and discussed the reasons why firms choose to pursue certification.
- Reviewed and evaluated current research on the impact of increased hospital supply on local health care markets
- Provided data collection services to determine garbage and yard debris can weights and set-out rates for Eugene residents

Education

- Designed and implemented a randomized evaluation that employed longitudinal student and school data to demonstrate the effects of Safe and Civil Schools' positive behavior support programs on elementary schools in the Fresno Unified School District
- Developed a method for using longitudinal student data to calculate and report student achievement growth (aka a school value-added-model (VAM)) as part of a school accountability program in Seattle, Washington
- Evaluated the effectiveness of the South Shore School (a public-private partnership school in Seattle, Washington) using a quasi-experimental regression analysis and longitudinal student data
- Evaluated the effectiveness of ASPIRE (a program to increased college enrollment among Oregon high school students) using a regression analysis and longitudinal student data that matched student K-12 records with college enrollment data
- Developed a district report card system for several Oregon school districts
- Evaluated the effectiveness of Pre-K and K programs in Bremerton, Washington using a regression analysis on longitudinal student data
- Testified before Oregon legislature regarding methods for funding school transportation systems

- Developed regression models to calculate funding levels for student transportation in Washington school districts and developed linear programming tools to evaluate the efficiency of district transportation spending

- Analyzed and presented results of a survey regarding methods for improving efficiency in Oregon schools

- Reviewed literature on motivations for and effects of mergers between institutions of higher education

- Reviewed and evaluated current research on using student test scores to assess school performance for Seattle Public Schools

- Described the Hispanic-White and Black-White achievement gaps in Oregon schools

- Estimated the economic effects of achievement gaps on Oregon's economy

- Reviewed and evaluated current research on the effectiveness of the Safe and Civil Schools program, and worked with clients to develop and implement additional program evaluation

Other

- Testified before the Oregon legislature regarding proposed legislation before the Oregon House that amends ORCP 32 by repealing subsection K and, therefore allowing recovery of UTPA statutory damages (currently $200) in class actions

- Calculated non-economic damages to a father denied access to his child for 17 years

- Calculated reimbursements to families who adopted foster children as part of a class action settlement

- Calculated damages suffered by an auto dealership and service department stemming from the violation of non-solicitation and non-compete clauses in an asset purchase agreement

- Reviewed and conducted analyses in order to determine specialty forest product harvesters are compelled to sell to a shed the brush they picked under the permit that shed issued them

- Analyzed the impacts of Measure 37 (property rights limitation) on the State of Oregon

- Provided testimony on the consequences to the healthcare markets in Portland of allowing a new hospital

- Estimated share of LCD TVs, LCD computer monitors, and notebook computer monitors were purchased by Oregon consumers and state and local governments as part of a price fixing lawsuit

Publications

"The Causes and Consequences of Land Use Regulation: Evidence from Greater Boston" *Journal of Urban Economics* 65(3): 265-278 Glaeser, E., and B Ward.

"The Effect of Low Impact Development on Property Values" *Proceedings of the Water Environment Federation, Sustainability 2008* , pp. 318-323 Ward, B., E. MacMullan, and S. Reich.

"Myths and Realities of American Political Geography." *Journal of Economic Perspectives*. Glaeser, E., and B. Ward. Spring 2006.

Regulation and the Rise of Housing Prices in Greater Boston. Glaeser, E., J. Schuetz, and B. Ward. Cambridge, MA: Rappaport Institute for Greater Boston, Harvard University, and Pioneer Institute for Public Policy Research. 2006.

"Distance and Social Capital: Can Isolation Be Good?," in *Social Interactions and Economics*, Ph.D Dissertation, Harvard University, March 2006.

"Does Reunion Attendance Affect Alumni Contributions?: Evidence from the Harvard College Classes of 1990-1999," in *Social Interactions and Economics*, Ph.D Dissertation, Harvard University, March 2006.

"Economic Bridges Falling Down." *Eugene Weekly.* Ward, B. and E. Whitelaw. October 8, 2008.

"The Economy: Now What? The Economists: Ward and Whitelaw" *Oregonian*, Ward B. and E. Whitelaw. September 20, 2008.

"Dream On." *Oregon Quarterly*. Ward, B. and E. Whitelaw. Winter 2007.

"Still the Land of Opportunity?" *Oregonian*. Tapogna, T., B. Ward, and E. Whitelaw. March 2006.

"The Price Is (Not) Right." Commonwealth: Growth and Development Extra. Glaeser, E., J. Schuetz, and B. Ward. January 2006.

Recent Speeches and Presentations

"Benefits and Costs of Seismic Mitigation" CREW Benefit-Cost Analysis Forum, January 2011.

"Does Low-Impact Development Affect Property Values?: Evidence from Seattle's Natural Drainage System Projects." Water Environment Foundation Sustainability 2008 Conference., June 2008.

"Compensation for ROW Access Under the Telecommunications Act of 1996: Fiscal Issues Related to Communications Services." NATOA 27th Annual Conference. Sponsored by the National Association of Telecommunications Officers and Advisors. Portland, Oregon. October 2007.

"Outside the Light: The real factors driving Eugene/Springfield's Economy." Eugene-Springfield Leadership Program. Sponsored by the Eugene Area Chamber of Commerce. Eugene, Oregon. October 2006.

"Deregulating the Housing Market." Preserving the American Dream Conference. Sponsored by the American Dream Coalition. Atlanta, Georgia. September 2006.

Teaching

Visiting Adjunct Instructor, Portland State University; Courses: Global Environmental Economics, Spring 2010.

Visiting Assistant Professor, Lewis and Clark College; Courses: Intermediate Microeconomic Theory, Econometrics, Public Economics, Environmental and Natural Resource Economics, Spring 2008 & Fall 2009.

Visiting Adjunct Instructor, University of Oregon; Courses: Labor Economics, Spring 2009.

Tutorial Leader, Harvard College; Courses: Everybody's Doin' It: Social Interactions and Economics, 2002-2006, Senior Thesis Tutorial: Labor, 2004-05.

Teaching Fellow, Harvard University; Courses: Intermediate Microeconomic Theory, Intermediate Macroeconomic Theory, Microeconomics: A Policy Tool for Educators, 2001-2003.

Teaching Assistant, University of Oregon; Courses: Principals of Microeconomics, Urban Economics, Economy of the Pacific Northwest, 1998-1999.

Edward MacMullan, Senior Economist

Years of Experience: 22 years

Firm: ECONorthwest

Education: M.S. Agricultural Economics and International Agricultural Development, University of California at Davis
B.S. Soil Science, Oregon State University

Edward MacMullan has been a senior economist with ECONorthwest since 1990. His areas of experience include assessing the economic effects of public policies, especially those that affect natural-resource management, and economic aspects of antitrust, intellectual property, right-of-way, telecommunication and healthcare topics. Before joining ECONorthwest he studied as a Fulbright Scholar at the Energy Studies Unit of the University of Strathclyde where he assessed the socioeconomic impacts of energy development projects in the highlands and islands of Scotland.

Right-of-Way Studies

- Conducted a valuation of a right-of-way occupied by a discharge pipeline from the Georgia Pacific facility in Toledo for the City of Newport.
- Submitted an affidavit in support of the fee that the City charges to access the municipal right-of-way.
- Analyzed the economic issues of telecommunications firms' challenge, under the Telecommunications Act of 1996, regarding Portland's franchise-fee agreements for right-of-way use, City of Portland.
- Evaluated the fees that a city in California charged a telecommunications company to access the city-owned right-of-way, private client.
- Reviewed economic issues specific to the Telecommunications Act of 1996 regarding the fees charged to telecommunications firms for right-of-way, City of Huntsville, Alabama.
- Evaluated right-of-way fees that were challenged by a telecommunications company under the Telecommunications Act of 1996, City of Tucson, Arizona.
- Provided economic analysis regarding the economic value of municipal rights-of-way and use of the rights-of-way by a telecommunications company, City of Portland, Oregon.
- Analyzed the economic damages from trespass outside a right-of-way in a New Mexico Pueblo during the construction of a petroleum production pipeline, Kelly, Haglund, Garnsey & Kahn.

Antitrust Economics

- Assessed potential anti-trust behavior in the market for acute care and tertiary medical services.
- Assessed economic aspects of alleged patent infringement of computer toolbar technology.

- For the plaintiffs, assessed economic damages to patent holders of alleged patent infringement in the power equipment market.
- Addressed the economic issues of class certification and damage calculations related to alleged antitrust violations in the market for residential lots.
- Studied the market for MRI services in the Boise area and assessed alleged anticompetitive behavior in this market.
- Analyzed claims of misappropriation of trade secrets, intentional interference with economic relations, and breach of contract, Schwabe, Williamson & Wyatt.
- Analyzed the market for diagnostic-imaging services in the Portland metropolitan area, Haglund, Kirtley, Kelley & Horngren.
- Calculated the economic impacts of alleged price fixing in the market for agricultural commodities, Tonkon, Torp, Galen, Marmaduke & Booth.
- Provided economic consultation in preparation for litigation regarding workers' compensation insurance, private client.
- Assessed the economic consequences of price discrimination and other antitrust behavior in the wholesale market for petroleum products in Cordova, Alaska, Condon Shoup.

Microeconomic Analysis

- For attorneys representing plaintiffs in a class action lawsuit, performed an analysis of the economic aspects of alleged violations by mortgage brokers of consumer truth-in-lending practices.
- For attorneys representing plaintiffs in a class action lawsuit, assessed the economic aspects of alleged inflated home appraisals.
- Determined the appropriate sample size required to confirm key characteristics about a phone pole population.
- Conducted an economic evaluation of a property at issue in a claim against a state.
- Provided economic analysis regarding litigation over a city’s method of collecting user fees for stormwater services.
- Evaluated the financial feasibility of a proposed destination resort in Central Oregon on the Gould and Cline Buttes.
- Calculated the plaintiff's lost profits and reasonable royalty in a patent infringement case, Schwabe, Williamson & Wyatt.
- Studied the factors that determine the market price for grass seed grown in Oregon, private client.
- Determined a royalty rate as compensation for economic damages in a breach of contract lawsuit, Schwabe, Williamson & Wyatt.
- Provided economic analysis of a patent infringement claim regarding suspension systems for bicycles, Schwabe, Williamson & Wyatt.
- Analyzed the national market for cookware items and the financial performance of firms that participate in the market, Schwabe, Williamson & Wyatt.

- Evaluated the market for professional manuals used by attorneys and legal assistants in Oregon, private client.
- Calculated the economic impacts associated with a proposed petroleum-products pipeline across Texas, George & Donaldson.
- Assessed the economic effects associated with a proposed petroleum-products pipeline in Washington state, Schwabe, Williamson & Wyatt.
- Determined the economic consequences of a breach of contract associated with a computer software program, Moore & Orr.
- Calculated uncompensated expenses and lost profits associated with a contract dispute between a manufacturer of video lottery terminals and the Oregon State Lottery, Davis Wright Tremaine.
- Analyzed lost profits from various patent infringement cases, Kolisch, Hartwell, Dickinson, McCormack, & Heuser.

Economic and Socioeconomic Impact Analysis

- Reviewed the market for workers' compensation insurance in Oregon.
- Assessed the financial implications of switching from franchise fees to a gross-revenue tax on telecom services provided in the municipalities.
- Conducted an economic benefit-cost comparison of a conventional roof and a greenroof on a commercial building, for the City of Portland.
- Assessed the impacts of greenstreets in the Puget Sound on property values for adjacent properties.
- Analyzed the operations and financial performance of a timber company's cogeneration facilities and determined the profits earned by the company as a result of unfair competition stemming from violations of air-quality regulations.
- Described the economic aspects of zoning incentives to protect natural resources, City of Corvallis, Oregon.
- Conducted a market analysis for industrial products in regional and world markets, private client.
- Evaluated the socioeconomic impacts of hospitals on rural economies, Mercy Medical Center.
- Conducted a cost-benefit analysis of energy efficiency and renewable energy resources, Alaska Coalition.
- Calculated the economic impacts of restricting snowmobiles from several national parks, The Wilderness Society.
- Analyzed the potential economic impacts of designating a national monument on land currently managed by the Siskiyou National Forest and Bureau of Land Management, Siskiyou Educational Project.
- Reviewed an economic impact assessment of a submarine cable and terminus at San Luis Obispo, California, North State Resources.

- Assessed the socioeconomic impacts of the proposed Pelican Butte ski area, Winema National Forest.
- Evaluated the economic consequences of new restrictions on Alaska's fishing industry, Earth Justice.
- Analyzed the Interior Columbia River Basin Ecosystem Management Project to ensure it internalized the externalities of resource-extraction industries on federal lands in eastern Washington, eastern Oregon, and Idaho, W. Alton Jones Foundation.

Economics of Health Care

- Evaluated how the approval of a hospital's Certificate-of-Need application would influence market concentration, Thorp Purdy Jewett Urness & Wilkinson.
- Studied economic aspects of defining a hospital's service area as it applied to Oregon's Certificate-of-Need requirement for new or relocated hospitals, Thorp Purdy Jewett Urness & Wilkinson.
- Identified the relevant markets for hospital services and evaluated the extent to which hospitals exercised market power over insurance firms and competing hospitals, Schwabe, Williamson & Wyatt.
- Studied the market for home intravenous care in preparation for a possible antitrust lawsuit, Watkinson Laird Rubenstein Lashway & Baldwin.
- Provided economic consultation on the market for healthcare services in Southern Oregon, Schwabe, Williamson & Wyatt.
- Evaluated damage claims, researched prices for hospital services, and provided advice on the distinction between fixed and variable costs, Schwabe, Williamson & Wyatt.
- Calculated lifetime medical expenses and lost wages as part of various personal injury and wrongful death lawsuits, private clients.
- Assessed the economic impacts of a breach of contract associated with a medical diagnostic technique, Stoel Rives.
- Quantified the net present value of lifetime medical services associated with a medical malpractice suit, private client.
- Evaluated the growth and discount rates of life care plans, Calkins & Calkins.

Public Policy and Government Regulations

- Calculated the economic damages to a seafood-related business as a result of a license dispute with the State of Washington, private client.
- Studied the economic performance of the ski industry in the Lake Tahoe area, the market conditions that affect this sector of the region's economy, and the economic factors associated with avoiding and complying with regional water quality regulations and county permitting processes, California Attorney General's Office.
- Provided economic analysis regarding a contract dispute between the City of Eugene, Oregon and a tenant leasing city-owned property, Harrang Long.

- Calculated tobacco company profits associated with the consumption of cigarettes by underage smokers, Attorneys General of Washington, Arizona, and Connecticut.

Labor and Welfare Economics

- Calculated the economic loss resulting from the employment termination of a 56-year-old male, private client.
- Quantified the economic loss to a regional bank associated with breach of contract by former employees, Arnold Gallagher Saydack Percell.
- Provided economic analysis for wage arbitration with municipal employees, City of Coos Bay, Oregon.

Analysis of Economic Damages to Natural Resources

- Assessed a construction company's ability to pay civil penalties associated with alleged violations of air-quality regulations.
- Described the economic value of water resources in California.
- Assessed the economic impacts on an oyster grower of the oil spilled from the grounding of the New Carissa, Davis Wright Tremaine.
- Conducted an economic analysis of the damages stemming from the Wheeler Point fire in central Oregon, Kafoury & McDougal.
- Calculated the economic impacts of the Exxon Valdez oil spill on Alaskan salmon fishermen, municipal governments, area businesses, and cannery workers, Stoll, Stoll, Berne, Lokting, Shlachter.
- Evaluated damage claims by area businesses and property owners affected by a pesticide spill in the Sacramento River, Lieff, Cabraser & Heimann.
- Assessed the economic consequences of a chemical spill on the municipality of Superior, Wisconsin, private client.
- Determined the economic impacts on area businesses of an oil spill off Huntington Beach, California, Law Offices of Gretchen Nelson.
- Evaluated the demand for recreational fishing in the Flathead Lake area of Montana, Montana Attorney General's Office.

Water Resources

- Developed an economic model to determine the economic benefits of riparian-restoration projects for Clean Water Services.
- Co-instructed a seminar at Portland State, "USP 505 Evaluating Low Impact Development (LID)," that focuses in part on the economic costs and benefits of managing stormwater by LID and conventional controls.
- Calculated the value of ecosystem services that could be degraded by stormwater runoff from expanded urban and commercial developments in the East Butte area of Portland for the City of Portland.

- Assisted the City of Portland staff in developing an approach to study the economic benefits and costs of alternative stormwater-management techniques in support of the City's Watershed Plan.
- Conducted a review of the literature on the economics of Low Impact Development for Waterkeeper Alliance.
- Analyzed the range of economic costs and benefits of projects and policy options affecting water quality and quantity in a Portland, Oregon watershed that drains to the Willamette River, City of Portland.
- Described the economic tradeoffs of allowing, limiting, or prohibiting development in significant riparian areas and wildlife habitat in the Portland metropolitan area, Metro.
- Developed a handbook on the economic factors associated with relicensing a hydroelectric dam, Hydropower Reform Coalition.
- Developed an economic model to determine the net economic benefits of riparian-restoration projects in Oregon, Clean Water Services.
- Reviewed the U.S. Army Corps of Engineers' Final Environmental Impact Statement on deepening the shipping channel in the Columbia and Willamette Rivers, private client.
- Studied the economic issues associated with water management services and the economic implications associated with the federal Endangered Species Act and Clean Water Act, Clean Water Services.
- Evaluated the economic impacts of bypassing four federal dams on the Lower Snake River and developed a plan to mitigate the negative consequences of the bypass, Trout Unlimited and Earthjustice.
- Determined the direct and indirect economic impacts of economic development projects in the Columbia River Gorge funded by the National Scenic Area Act, Columbia River Gorge Commission.
- Evaluated the potential impacts of a proposed gold mine in Montana's Blackfoot River watershed on employment and quality of life, Blackfoot Legacy.
- Assessed the economic consequences of modifying hydroelectric dams to protect and enhance riparian habitat, private client.
- Prepared a response to the Draft Environmental Impact Statement for the Columbia River System Operation Review, Confederated Tribes of the Umatilla Indian Reservation.
- Assessed the economic consequences of alternative strategies for managing the Columbia River and its tributaries, Northwest Water Law and Policy Project.

Endangered Fish and Wildlife

- Described the economic effects of designating critical habitat for two endangered species of fish in the Klamath Basin of Oregon and California, U.S. Fish and Wildlife Service.
- Critiqued a draft report on the potential economic consequences of designating critical habitat for the Steller's and spectacled eiders, private client.
- Evaluated the potential economic impacts of restricting Alaska's groundfishery in critical habitat for the endangered Steller sea lion, private client.

- Analyzed the economic consequences of designating critical habitat in California, Oregon, and Washington for the marbled murrelet, U.S. Fish and Wildlife Service.
- Assessed the economic effects of an injunction to protect salmon habitat on the Wallowa-Whitman and Umatilla National Forests, private client.

Forest Resources

- Prepared a critique of the U.S. Forest Service's estimated demand for timber from the Tongass National Forest, Alaska Rainforest Campaign.
- Analyzed the economic consequences on southeast Alaska's economy of reduced timber harvest in the Tongass National Forest, Sierra Club Legal Defense Fund and the Alaska Rainforest Campaign.
- Studied the relationships between forested ecosystems and regional economies in Oregon, Alaska, North Carolina, New Hampshire, New Mexico, and Wisconsin, National Science Foundation.
- Evaluated the opportunities and threats facing timber-dependent communities affected by logging restrictions on federal land in Washington state, Washington Community Development Department.

Recent Presentations

- "Low-Impact Development Economics." October 22, 2008. NEMO University-6.
- "The Economics of Low-Impact Development." NY/NJ Baykeeper 2008 Low Impact Development Conference. January 23, 2008. New York City, New York.
- "Assessing Low-Impact Development Using a Benefit-Cost Approach." California Stormwater Quality Association (CASQA) 3rd Annual Stormwater Conference. September 11, 2007. Costa Mesa, California.
- "Valuing Ecosystem Services in Portland, Oregon: A Case Study." Emerging Issues Along Urban/Rural Interfaces II Conference. April 9-12, 2007. Atlanta, Georgia.
- "Assessing Low Impact Developments Using a Benefit-Cost Approach." 2nd National Low Impact Development Conference. March 12-14, 2007. Wilmington, North Carolina.

Publications

"Low-Impact Stormwater Controls Can Increase the Bottom Line." *Home Building News.* August 2008.

The Economics of Low-Impact Development: A Literature Review. Waterkeeper Alliance. With S. Reich. November 2007.

"Cities Challenged in Their Economic Interpretation of the Telecommunications Act of 1996." *Municipal Lawyer*. With E. Whitelaw and A. Pearce. September/October 2006.

"A Framework for Estimating the Costs and Benefits of Dam Removal." *BioScience* 52 (8). With E. Whitelaw. August 2002.

The Economic Benefits of Renewable Energy and Cost-Effective Energy Efficiency. Alaska Coalition. With E. Niemi and A. Fifield. September 2001.

An Economic Strategy for the Lower Snake River. Trout Unlimited. With E. Whitelaw. November 1999.

The Potential Economic Consequences of Designating Critical Habitat for the Marbled Murrelet: Final Report. U.S. Fish and Wildlife Service, Portland Field Office. With E. Niemi, E. Whitelaw, and D. Taylor. 1996.

The Potential Economic Consequences of Critical Habitat Designation for the Lost River Sucker and the Shortnose Sucker: Final Report. U.S. Fish and Wildlife Service, Portland Field Office. With E. Niemi and E. Whitelaw. August 1995.

Economic Consequences of Management Strategies for the Columbia and Snake Rivers. Confederated Tribes of the Umatilla Indian Reservation. With E. Niemi and E. Whitelaw. July 1995.

Economic Consequences of an Injunction to Protect Salmon Habitat on the Wallowa-Whitman and Umatilla National Forests: Preliminary Report. With E. Niemi and E. Whitelaw. 1995.

The Columbia River and the Economy of the Pacific Northwest. With E. Niemi, E. Whitelaw, and A. Gorr. May 1995.

The Potential Economic Consequences of a Reduction in Timber Supply from the Tongass National Forest. With E. Whitelaw. December 1994.